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98TH CONGRESS
*2d Session*

HOUSE OF REPRESENTATIVES

REPORT
98–1171

# THE IMPACT OF CHANGES IN THE TELECOMMUNICATIONS INDUSTRY ON SMALL BUSINESS

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A REPORT

OF THE

COMMITTEE ON SMALL BUSINESS
HOUSE OF REPRESENTATIVES

NINETY-EIGHTH CONGRESS
SECOND SESSION

together with

SUPPLEMENTAL VIEWS

DECEMBER 10, 1984.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

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# LETTER OF TRANSMITTAL

House of Representatives,
Committee on Small Business,
*Washington, DC, December 10, 1984.*

Hon. Benjamin J. Guthrie,
*Clerk, U.S. House of Representatives,*
*Washington, DC.*

Dear Mr. Guthrie: Transmitted herewith is a report of the Committee on Small Business entitled "The Impact of Changes in the Telecommunications Industry on Small Business."

This report is submitted with approval of the full committee.

With kindest regards, I am

Sincerely,

Parren J. Mitchell, *Chairman.*

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Mr. MITCHELL, from the Committee on Small Business, submitted the following

# REPORT

## CHAPTER I.—INTRODUCTION, FINDINGS, AND RECOMMENDATIONS

### A.—SUBJECT AND PURPOSE OF INVESTIGATION

On May 23, 1984, Congressman Parren J. Mitchell, Chairman of the Committee on Small Business, established a Task Force to investigate the impact of telephone rates and charges upon small business and to report its findings and recommendations to the full Committee by November 30, 1984.

The Task Force was comprised of Representative Ron Wyden (D-OR) as chairman and the following 11 members: Representatives Berkley Bedell (D-IA), Ike Skelton (D-MO), Charles W. Stenholm (D-TX), Romano L. Mazzoli (D-KY), Buddy Roemer (D-LA), Jim Cooper (D-TN), Vin Weber (R-MN), David Dreier (R-CA), Toby Roth (R-WI), Sherwood L. Boehlert (R-NY), and Michael Bilirakis (R-FL).

### B.—INTRODUCTION

Phone bills for hundreds of thousands of small businesses are going through the roof. Many of these small businesses—already faced with limited capital and escalating costs—are struggling to survive.

Recent radical changes in the telephone industry are a major factor in these rising costs. In January 1982, the U.S. District Court of the District of Columbia broke up American Telephone and Telegraph (AT&T) into eight smaller companies—one providing long-distance service; the other seven, local service. Aggressive new companies, fueled by new technologies, immediately moved in, challenging AT&T's control of the long-distance market. Meanwhile, the local telephone companies requested more than $10.9 billion in local phone rate hikes due, in part, to modernization of depreciation schedules and other changes. In addition, many local carriers have sought approval to begin charging for local service much as long distance service is currently charged for—by duration of call, time of day, and distance. The Federal Communications Commission (FCC) entered the fray, ordering the shift of billions in telephone service charges from long distance tolls to local telephone users, through what is commonly called the end-user access fee.

For a large percentage of small businesses, these changes have proven painful. Many large corporations which are heavy long distance users came out ahead; for them, local rate increases could be offset by reductions in long distance rates. Residential customers and single line businesses, meanwhile, won a delay in the implementation of the access fee until July of 1985.

Small businesses with more than one telephone line (the majority of small businesses) bore the full brunt of various rate increases. They began paying an interstate long distance access fee of up to $6 per line per month effective May 25, 1984. In those States where local rate hikes were approved, they began paying those as well (See Appendix I). And because most of them use predominantly local or intrastate long distance service, they gained little from the long distance rate reductions.

It is not surprising that small businesses came out as the losers in the telephone industry transformation. The Committee has found that the FCC made virtually no attempt to examine small business usage patterns or special needs, or to in any other way ascertain the impact on them of the access charges or other changes in the telephone industry, before imposing the new costs on small businesses.

The impact of these new charges is nonetheless alarming. Small businesses are the economic backbone of this Nation. They are the job creators, the innovators, and the producers. They are also, however, the most susceptible to economic pressures. And rising local phone rates are one additional economic pressure they just cannot afford.

That small businesses are concerned about rising phone rates is clear. A recent study by the National Federation of Independent Business (NFIB) found that small businesses consider rising phone costs one of their top four problems.

How best to address this concern is less clear. Since AT&T was broken up and the access charge and other regulatory decisions were handed down, Congress has held dozens of hearings and heard from hundreds of witnesses, many of them contradicting each other. Congress has struggled to come up with policies that will advance competition and technological growth while ensuring that all Americans will have access to top quality telephone service at a price they can afford.

The job still remains to be done. A good beginning is for Congress to instruct the FCC to go back to the drawing board; to remove the access charge on small businesses until it can present solid justification for it or come up with a more equitable, economically viable alternative.

The FCC and other decision-makers should also be instructed to refrain from further decisions in the sensitive field of telecommunications until they have all the facts. The United States has a much deserved reputation for enjoying the best telecommunications system in the world. Maintaining that reputation is critical to our ability to compete effectively in the growing international marketplace. We will not maintain that reputation, however, if we continue to make decisions that will bring about a two-class telecommunications system—one class for large consumers and another for small consumers—and cripple the most productive and innovative part of our economy—our small businesses.

Following is a summary of the Committee's findings and recommendations:

## C.—FINDINGS

The Committee finds:

That the FCC has failed to adequately investigate the economic and social impacts of its telephone pricing decisions on small businesses.

That the FCC issued its end-user access charge decision without regard to this lack of information and in the face of disturbing and unresolved controversy among communications experts.

That the results of this decision, in conjunction with other rate increases, have been sharply rising local phone bills and economic hardship for this Nation's small businesses.

That these businesses have not been aided significantly by any offset in interstate long-distance charges since the best available data indicate that the majority of small businesses use mostly local and intrastate long distance service.

That the FCC has not proved that the imposition of access charges on small businesses is the best way to prevent bypass of the local telephone system.

That some telephone companies have pursued higher local rates and dramatic shifts in the way local service is paid for.

The Committee further finds:

### *Rate changes*

That absent administrative and legislative changes local telephone rates will increase dramatically in the next few years.

That some shift in revenues from long-distance tolls to local systems is probably necessary. But that the FCC's long-distance, end-user access charge plan, which will shift billions of dollars in long-distance toll costs to local telephone users, has not been proven necessary by the Commission and may serve to add substantially to the financial burden borne by local users.

That long distance rates between urban areas will decline as a result of competition.

That long distance rates between rural areas are likely to rise sharply unless long-distance toll rate averaging is maintained or until competition enters these rural markets.

### *FCC justifications for access fees and other changes*

That while some of the local rate increases are due to the divestiture of AT&T, most are due to FCC regulatory actions.

That, at present, the level of "bypass" is minimal relative to the growth of telephone company revenues.

That the potential for bypass, however, appears to be serious and that the major causes are service quality, technological needs of the customers, and price.

That the telephone companies themselves can preclude a considerable amount of bypass by addressing service quality and technological needs of their customers.

That alternatives exist to the FCC's access charge plan which appear to be more reasonable.

That many economists specializing in communications believe the access charge decision may not product either an economically efficient or an equitable outcome.

That much controversy continues over local nontraffic sensitive, or fixed costs; including, what they are, who causes them, and who should pay for them.

### *The impact of rising local rates on small businesses*

That the FCC has neither studied nor initiated a study of the economic impact of rising local rates on small businesses.

That the FCC's issuing of a press release—Public Notice 5346 asking for comments on the effects of access fees and other local rate increases on small business 1½ years after the access fee decision was made—is woefully inadequate and is no substitute for a serious, comprehensive study.

That the telephone industry, to date, has also failed to provide comprehensive data concerning the impact of rapidly rising local rates on small business.

### *Local measured service (LMS)*

That testimony presented to the Task Force indicates that local telephone companies and regulators have not proven that LMS is economically efficient or equitable or that it will not cause small businesses economic harm.

That these telephone companies and regulators also have not disproven contentions by experts that LMS may increase the total costs of the telephone system and that small businesses will bear a disproportionately large share of these higher costs.

That most small businesses appear to oppose the LMS concept of changing for local telephone service in the same manner as for long distance.

### *Special concerns*

That excessive paperwork requirements place an undue burden on small rural telephone companies.

That telephone bills issued to small businesses and other telephone customers often are overly complex and confusing.

That the provision of a Universal Telephone System is essential to the economic and social well-being of the Nation.

## D.—RECOMMENDATIONS

The Committee recommends the following actions:

(1) That the FCC remove the access charge on small businesses (as defined for this purpose by the U.S. Small Business Administration with Committee oversight) until such time as it presents Congress with a comprehensive analysis of the impact on small businesses of the access charge plan and an adequate justification for the plan;

(2) In addition, although the Task Force jurisdiction is limited to small business, the Task Force believes that the FCC should furnish Congress with a thorough analysis demonstrating that the imposition of access charges on any group is in the public interest;

(3) That the FCC cannot adequately justify the access charge plan as currently constituted or come up with an acceptable revision, that it present Congress with a reasonable alternative that will (a) reduce incentives for uneconomic "bypass" and (b) provide for a fair allocation of jointly caused local network costs;

(4) That as part of the analysis of the access charge and possible alternatives requested by this Task Force, the FCC examine and calculate the nontraffic sensitive costs and the actual cost of local telephone service and use this information in reaching its decision;

(5) That the FCC study the effects of the access charge and other recent regulatory decisions on small businesses, including small rural telephone companies, something the commission has failed to do so far;

(6) That in the future, such studies be conducted by the FCC and duly considered before regulatory changes are implemented;

(7) That current plans to vastly expand local measured service (LMS) be halted until a comprehensive cost-benefit analysis of LMS is completed;

(8) That the FCC work with the telephone industry and the States to develop a strong Universal Service Fund for high-cost rural areas;

(9) That the FCC make special provisions when necessary so that the revenues of small rural telephone companies are not endangered by regulatory changes;

(10) That long-distance toll rate "deaveraging" in rural areas be prevented until such time as meaningful competition exists in those markets;

(11) That the FCC seek out ways to relieve the unjustified paperwork burden on small rural telephone companies through such steps as application of the Regulatory Flexibility Analysis, which applies to other small business;

(12) That long-distance and local telephone companies work with business organizations and regulators to develop a simplified "model" telephone bill;

(13) That these telephone companies also provide to small businesses on request an annual telephone statement that

simply and specifically lists all the services for which small buisnesses are charged;

(14) That the FCC exercise caution in assigning additional costs to the remaining monopoly elements of the telephone network, including local network and rural long-distance subscribers;

(15) That the FCC report back to the Committee concerning its responses to the Committee's recommendations and requests by April 1, 1985.

## CHAPTER II.—REPRICING TELEPHONE SERVICES

### A.—INTRODUCTION

It is well established that local telephone rates of small businesses will increase dramatically in the next few years. These rapid rate increases are due primarily to decisions of the Federal Communications Commission (FCC) and partly to the divestitute of AT&T by the courts.

The effect on small businesses of this dramatic rise is bound to be substantial and serious. A recent survey by the National Federation of Independent Businesses (NFIB) reveals that the cost of telephone services is one of the top four problems faced by small businesses. Unfortunately, the Federal Communications Commission failed to consider the impact of rapidly rising local rates on small businesses. This failure constitutes a serious neglect of their duty to the millions of small business telephone subscribers in the Nation.

There are more than 17 million proprietorships, partnerships, and corporations in the United States. The vast majority of these, more than 16.5 million, are small businesses—small businesses are generally defined as those having fewer than 500 employees. Only 54 percent of the 17 million businesses had more than $10,000 in gross income in 1981. Only 5.5 million had one employee or more and, of those, only 3.4 percent or 187,000 businesses had 100 or more employees.

Still, small businesses employ over one-half of all private sector workers and create a disproportionately large number of new jobs in the economy. Small businesses have played a vital role in innovation and in spearheading high technology industries. We are a Nation of small businessmen and women—a Nation of entrepreneurs.

Small businessmen and women have always made great contributions to our country's growth. Their businesses are also the most fragile in many ways. They are often heavily in debt. In a recession, they are the first to suffer. For example in 1983, the highest rate of business failures in 51 years took place, followed in 1984 by the second highest rate of business failures in 52 years according to data from Dun & Bradstreet. More than 99 percent of business failures and bankruptcies are small businesses.

The role of telecommunications is vital to the health of small businesses and, in turn, to the economic well-being of the Nation. Because of this, FCC decision-making must include an analysis of the impact on small businesses.

### *1. The impact of higher local telephone charges on small business*

The following sections summarize some of the serious questions and problems raised by recent FCC decisions. Included are:

(1) a description of the access charge, a discussion of the FCC's justification for it;

(2) a summary of evidence concerning the effects of the access charge and rapidly rising local telephone rates on small businesses;

(3) a review of the controversy over nontraffic sensitive (or fixed) costs (i.e. costs which do not vary with the amount of usage of the phone lines);

(4) a summary of expert viewpoints concerning the bypass controversy;

(5) a discussion of economic efficiency in the complex telecommunications industry; and

(6) a discussion concerning alternatives to the FCC's end-user, access charge decision.

## B.—LONG-DISTANCE, END-USER, ACCESS FEES

### *1. Description*

The Federal Communications Commission (FCC) decided in December 1982 to shift billions of dollars in telephone service charges from long-distance charges to local "end-user access charges." The FCC provided for a transition period until 1989. This and other FCC decisions will increase local telephone bills 90–115 percent according to an analysis by the Michigan Public Utility Commission.

The "end-user-access-fee" was to be $4 per line per month for residential customrs and up to $6 per line per month for business customers. In January 1984 after public and congressional pressure, the FCC announced a decision to postpone access charges for residential and one-line businesses until June 1985. The Commission also put a $4 monthly limit on residential subscriber access charges until 1990.

Until the FCC's access charge decision, interstate long-distance toll charges contributed about 25 percent of the nontraffic sensitive (NTS) costs of the local telephone network. This practice strated in 1943 when all long-distance contributed about 3 percent to the local network and accounted about 3 percent of all telephone calls. The share of local network costs paid by long-distance charges has grown with the growth in the share of long-distance calls and the increasing sophistication of the local networks necessary to complete those calls. The growth of long-distance toll calling per telephone has greatly outpaced the growth of local calls—100 percent for long distance compared to 8.3 percent for local in the 10 years from 1971 through 1980.

### *2. The FCC's justification for access fees*

The rational for the FCC's access fee decision is as follows:

A large part of the costs of the local network are fixed or, in the terms of the FCC, notraffic sensitive (NTS). The NTS costs must be recovered regardless of the volume of traffic. Although the local network serves both long-distance and local traffic, the FCC's decision would assign nearly all costs to the "end user" or local subscriber directly. The FCC argues that these costs are necessary to obtain even a dial tone—necessary to even have the ability to make local or long-distance calls.

Second, the FCC argues that because NTS costs do not vary with the amount of usage, it is economically inefficient to charge callers on the basis of usage. Economic theory tells us that the most efficient price for a local or long-distance call is its marginal or incremental cost, the additional cost imposed on the system by the call.

Third, the FCC contends that heavy long-distance users are discriminated against because they contribute more to the local network's NTS costs than do light users of long-distance.

Fourth, the FCC has stated that heavy long-distance users will likely "bypass" or circumvent the local telephone network in order to avoid the extra long-distance charge for NTS costs.

Finally, the FCC argues that if enough of the heavy long-distance users leave the network, the remaining subscribers will be saddle with all of the local NTS costs. The resulting sharp rise in local rates, the argument goes, will force many lower income subscribers to leave the network. Therefore, says the FCC, failure to enact the end-user access charge threatens universal telephone service.

## C.—THE IMPACT OF HIGHER LOCAL TELEPHONE CHARGES ON SMALL BUSINESSES

### *1. FCC research on the impact of higher local rates on small businesses*

One and one-half years after deciding to shift billions of dollars in telephone charges from long-distance to local telephone users the FCC issued a press release—Public Notice 5346—requesting information on the effects of rapidly rising local telephone rates on small businesses. The FCC allowed only 45 days for responses. Given the very short time in which to respond, not very much was expected—and not very much resulted. As of November 16, 1984, no additional data or studies by business size had been submitted to the Task Force by the FCC.

Under questioning at a hearing of the Task Force on June 26, 1984, Commissioner Mark S. Fowler, Chairman of the Federal Communications Commission asserted that the Lewis Perl study included small businesses in its analysis.[1] However, in a letter to the Task Force responding to Task Force questions, Commissioner Fowler acknowledged that the FCC had ". . . not specifically studied the potential effects on small businesses of customer line charges and other increases in local telephone charges."

Chairman Fowler's response to written questions from the Task Force indicate the importance of a serious, comprehensive study. When asked what effect a 100-percent rise in local telephone rates would have on the number of business telephone lines, Mr. Fowler responded that available studies indicated that somewhere between 1 percent and 15 percent of business telephone lines would be discontinued. A 15-percent decline would result in a sharp drop in telephone company revenue from businesses and cause remaining business and residential lines to bear a higher proportion of costs. Already, the sharp rise in local business rates has driven many businesses to save money by installing on-premises switching systems (PBXs). Businesses which do some of their own switching can reduce the number of access lines for which they pay.

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[1] Lewis J. Perl, "Residential Demand for Telephone Service 1983," National Economic Research Associates, Dec. 16, 1983.

Although the staff of the FCC has attempted to obtain additional information by size of business from the telephone companies, they have been successful only in obtaining information by the number of telephone lines per business as of November 16, 1984. As small businesses are defined by either the size of the revenues or the number of employees, the information by the number of telephone lines does not appear to be useful.

The failure of the FCC to study the effects of doubling local rates on businesses is a serious lapse in responsibility on its part. In its rush to "deregulate", it shifted billions of dollars in charges from the emerging competitive sector—long-distance—to the remaining monopoly sector—local telephone service. It reallocated charges, which it has not verified as being totally "caused" by either local or long-distance.

### *2. Industry studies of the impact of higher local rates on small businesses*

The Task Force has found on comprehensive telephone industry study of the impact of rising telephone rates on small businesses. As of November 16, 1984, no data or information by size of business had been presented to either the Task Force or the FCC.

The Task Force continues to believe that a comprehensive study of the impact of recent FCC action by size of business is extremely important. To that end the Task Force staff has been working with the staff of Bell Communications, Inc. to develop a more comprehensive study of the problem.[2]

Several other analyses have been presented to the Task Force. Ozle Allen, manager of the Ben Lomand Rural Cooperative in McMinnville, TN, has developed information on a number of businesses selected at random from his business customer base. The results show that only two businesses in 22 (9.1 percent) benefited more from the reduction in long-distance rates than they lost to access fees. Even with a 30-percent reduction in long-distance rates, only 10 of 22 would gain. Unfortunately, because Ben Lomand Rural Cooperative serves a rural area, long-distance rates are not likely to be reduced, but are likely to rise due to "deaveraging" of long distance tolls.

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[2] On October 1, 1984, in the last of a series of discussions, members of the Task Force staff and staff of Bell Communications Research Inc. agreed to the following study:

Data: The data are a match of telephone billing data from some Bell operating companies with a small business data bank containing measures of size such as employment and average monthly sales.

Confidentiality: The records of individual businesses are to remain confidential.

Scenarios: It was agreed that two scenarios would be run on the Bellcor computer: (1) a full implementation of the FCC access charge decision and other local rate increases and (2) a partial implementation scenario with residential and one line business exempt from access fees.

Reporting of results: The following size categories were agreed upon: (1) 0-9 employees, (2) 10-19 employees, (3) 20-49 employees, (4) 50-99 employees, (5) 100-499 employees and (6) 500 plus employees for all industries and for each digit Standard Industrial Classification (SIC) code. The following statistics for each of the following variables was agreed upon.

Statistics: Mean or average, median, minimum, maximum, and variance.

Variables: Access lines, employees per line, sales per month, local charges, interstate toll charges—MTS, WATS and PL, intrastate toll charges—MTS, WATS and PL, total telephone expenditures, telephone expenditures as a percent of sales, access charges divided by interstate MTS toll and WATS, total end user charge, total toll savings, and estimated bypass savings.

The Task Force greatly appreciates the time and expense of Bellcore.

Some telephone company studies of the impact on businesses have defined small business by the number of telephone lines. To date, no information has been presented by size of businesses.

In a recent Bell Communications study of bypass, data on small business were presented by number of lines rather than by size of business.[3] In addition, only averages were presented in the data. The danger of relying on averages can be illustrated thusly: Ten people have enough food for an average intake of 2,000 calories per day. If five people eat 3,500 calories per day person or 17,500 calories of the available 20,000 calories, then only an average of 500 calories per person per day are available for the remaining 5 people. On average, nobody is starving, but in reality five people are getting mighty thin.

Although, it looks as if businesses may on average, do alright with the access fee, it appears that some will get mighty thin. How thin? Industry data is too thin to tell.

The telephone industry spends tens of thousands of dollars every year on economic, accounting, legal and computer studies. In addition, the industry is supporting the massive repricing of telephone services currently underway. Therefore, the industry should be willing to perform serious and comprehensive studies of the impact on small businesses.

### *3. The impact of higher local telephone rates on small businesses: Testimony from small businesses*

Testimony from a broad spectrum of small businesses and their representatives was uniformaly opposed to shifting billions of dollars in long-distance access fees and other rate increases onto the backs of small businesses. The words of the witnesses themselves are most eloquent in revealing their concerns:

> Once again, we have created a system of charges and incentives. The charges go up disproportionately on the local service or retail firm, while the incentives go to the large national market based companies. So, for small businesses that rely on the phone system, many are left out in the cold yet again.—Francis X. Doyle, Legislative Director, Small Business Service Bureau, Worcester, MA, Testimony, September 25, 1984.

> Together, the new telephone company tariffs would have forced mammoth rate increases on private line services users, including (small business) Muzak affilates. When one reads between the lines of the support materials filed with the new tariffs, it became clear that the tariff changes had no cost or other lawful rationale. Rather, when all was said and done, the telephone companies simply were attempting to dramatically increase charges

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[3] "The Impact of Access Charges on Bypass and Universel Telephone Service," Bell Communications Research Inc., September 1984, pp. 54–56.

to those captive ratepayers who had no meaningful alternative to local telephone lines. And the telephone companies had chosen to try to slide these rate increases into effect when the opportunities for customer and regulatory review were the smallest.—Thomas S. Gantert, Small Business Consultant, Memphis, TN, and Russell L. Spenser, Jr., Indpependent Commuinications, Inc., Norristown, PA, Testimony, June 26, 1984.

The impact of the access charge plan on small business was never properly studied during the plan's formulation, and now that the facts are available, NFIB is urging the FCC to reconsider the plan.—John Motley, Director of Federal Legislation, National Federation of Independent Business, Testimony, June 16, 1984.

The issue we concern ourselves with today is an important one. It is whether or not small business should be burdened with telephone company access charges for long distance phone service. In addition to the dollar cost aspect of this issue, there is the equally important, and I am afraid all to familiar, matter of how we as a Nation treat the small business sector of our economy. The access charge is another in a long list of actions that take small business for granted.

Mr. Chairman, as you know, small business has been burdened in the past and still today with many disproportionate costs. Various studies have shown that small business pays more than its share of utility costs and of many taxes. It pay more for its credit and during times of tight money is the first to be totally deprived of credit. When the economy turns sour, small businesses are the first to go under and often the last to come back during recovery phases. It seems always to be the last considered when Government red tape and paperwork comes down the line—that is, if it is seriously considered at all.—Roswell W. (Bill) Nourse, Brookmeade Hardware and Supply Company, Nashville, TN, Testimony, October 19, 1984.

The economic impact of the Federal access charge which has been levied on our phone bill has been staggering. Telephone costs are an obviously high percentage of total costs for TWTA and therefore, more difficult if not impossible to pass on to our customers. Our Gainesville phone bill has increased by $132 and our Orlando phone bill has increased $438. both of these represent a 19-percent increase in the cost of doing business at each location.—Ronald J. Clark, Vice President, TWTA Corp., Tampa, FL, Testimony, October 19, 1984.

It is my understanding to focus on what I believe to be the most unfair aspect of these increases, that is, the $6 per line monthly charge for end-line access for interstate calls. I do not intend to dwell on the rationale for these charges, rather, I am here to protest the results of them. The net effect of these access charges is to place the bulk of the burden of expense on the backs of small businessmen who, quite often, made few or no interstate calls.

Furthermore, this unfairness should not be compounded by allowing a similar charge on single-line business phone and the $2 access charge on residential customers. These charges would impose an even greater hardship on them and greatly endagner their ability to afford telephone service.

Instead, I would urge caution. Closer examinations of whether or not these charges are actually needed and whether the furor created by the threat of "bypass" is a real danger are in order. Clearly, the present arrangement is unjust. Ideally, long distance costs should be paid by those who make long distance calls. In conclusion, I urge the members of this committee to work toward a more evenhanded solution. I thank you.—Jerry W. Cooper, President, Cooper Manufacturing Company and Senator-Elect, Smartt, TN, October 19, 1984.

Recently in Washington State, there was a new fee added to most small business telephone bills called "common equipment charges." This new fee never existed before divestiture began, and essentially it is a fee for terminating the wire from the street into the business. It has nothing to do with the wires to the telephone or the telephones themselves. This new cost for small businesses is $11.20 per month for the first four lines. Businesses with more than four lines pay only $1.40 per line after four lines in "common equipment charges." As you can see, the costs are disporportionately higher by far for smaller businesses as compared with larger businesses. In addition, the cost to continue renting their existing telephone equipment increased 38 percent for "key telephone systems" which most small businesses have while the cost for other types of telephone systems used primarily by larger businesses experience very little, if any, increase. The Utilities and Transportation Commission has also allowed prohibition on the sharing or resale of "flat rate" WATS telephone service in Washington State so that large telephone customers who already have "flat rate" WATS service may make intrastate long distance calls for as little as $.06 per minute where smaller businesses must pay about $.30 per minute for "measured" WATS service or use direct distance dialing ranging in cost from $.23 to $.46 the first minute and $.12 to $.31 for each additional minute. Clearly, the Committee members can see that in addition to the current Federal policy that has numerous negative impacts on small businesses, the additional State policies compound these negative impacts so as to place small businesses in a far inferior competitive position relative to larger businesses as well as threatening an essential communication link the small businesses must have with their customers.

We regret to advise you today that things haven't gotten much better than one year ago. In fact, they've gotten worse. Small businesses have been fighting a fierce defensive battle against continuing telephone cost increases with some victories along the way but we still fear we are losing the war.—Gary L. Smith, Executive Director, Independent Business Association, Bellevue, WA, Testimony, August 23, 1984.

Let me give you one relatively clear example of what the businessman, the phone company, and the Public Utility Commissioner face as a result of the post-diverstiture emphasis on so-called costbased pricing. I will focus on the feature in a phone that makes it possible for the phone to hunt for the next available line so that the caller does not simple get a busy singal and have to redial until it reaches that available line. This feature is called "hunting." In Oregon, Pacific Northwest Bell initially wanted to charge $14 per line per month to add this feature to an ordinary business line. The question the regulator must ask is, how much does it cost Pacific Northwest Bell to provide this service. The experts at first suggested that this feature could be added to some lines for as low as 12¢ per line per month, and others substantially more, but by the end of the hearing all of the experts conceded that the actual cost of providing hunting did not exceed $1 per line per month. Then the obvious question in the Oregon proceeding is, why is the phone company, which has been asked to price based on cost, charging $14 for something that only costs $1. The answer from the phone company was that its rates were not necessarily cost-based, but rather "cost-related." The company did, however, lower its propoed rate to $10. The Public Utility Commissioner ultimately recommended $7.

I would submit that if Pacific Northwest Bell charges $7 for something that only cost $1, and, therefore, they are charging seven time cost, then it is questionable whether this is even cost-related pricing. This is the kind of ratemaking which creates a great deal of skepticism among the business community.—Mark S. Dodson, Lindsay, Hart, Neil & Weigler representing TRACER, Portland, OR, Testimony, August 23, 1984.

We have been told by the regulators and the telephone companies these changes are a result of pricing telephone services according to cost. Recent regulatory actions contradict these statements of public policy.

The $6 per line per month charge impose, upon businesses with more than one line is not cost-based. Businesses must pay this extra cost regardless of their interstate long distance use. This method of raising replacement revenue for local telephone service providers has resulted in much higher phone costs for small businesses and an indirect transfer of capital from small businesses to Amercia's corporate giants.—Jim Bernau, Executive Director, Oregon NFIB, Testimony, August 23, 1984.

Your proposed access fee for telephone service discriminates against small business. It particularly discriminates against any business that relies on the telephone for over 60 percent of its customers. In the Auto Parts business, people shop for value, with the high cost of parts and gasoline, they shop by phone. If we maintain our current number of phone lines, we will be forced to pay over $85 per month in access fees. If we are forced to cut our phone services due to this fee, it will cause a directly proportional drop in business. I know of no one who wants to hear a busy signal when they are trying to purchase an item. Do you?

Furthermore, we must add telephone lines as we grow. This fee will stunt our growth, and other small businesses with us. Yet, it will not even affect the large conglomerates with their expensive private systems.

Friends, in a word, this proposed access fee "discriminates." If it is passed it will put one more nail in small buinesses coffin. So please, do not pass the access fee. You will be penalizing people who can least afford to pay. You will be weakening our competitive free enterprise system.—D.J. Hogan, Owner, East Side Auto Parts, Kansas City, MO, Testimony, August 24, 1984.

Rate-restructuring proposals and decisions rendered in the wake of divestiture often are characterized by their proponents as the products of "cost-based pricing." That term sounds like an eminently reasonable and fair goal. However, the term itself is predicated on the fundamental assumption that "costs" are known.

AT&T and the Bell Operating companies (BOC's) claim that access charges are a necessary part of the grand movement toward cost-based pricing. Their argument relies on the assertion that long-distance rates previously were set artificially high to subsidize the true costs of local service.

The Department of Justice, however, was not buying this assertion in the days before divestiture. Though ready to agree that a rate subisidy existed, the Justice Department's investigators concluded that it ran the other way—that local rates subsidized long-distance service.

The question of which rates subsidize the others was never resolved, as the antitrust settlement effectively cut off the arguments.

NFIB's concern in this matter is not so much with the controversy itself. I have raised the subsidy question only because it exemplifies the environment in which the Federal Communications Commission formulated its access charge plan. It is a climate of confusion and controversy—an outgrowth of a woeful lack of reliable information. In such a climate, reasonable and fair pricing policies cannot

> flourish.—John Sloan, President, National Federation of Independent Business, Testimony, October 19, 1984.

*4. A special problem facing small businesses: Incomprehensible telephone bills*

Small business owners repeatedly stated that telephone billing statements are very complex. Witnesses expressed concern that they were unsure of what they were being billed for.

The Committee recommends that the telephone companies, working with business organizations and regulators, develop a simplified "model" phone bill. We also recommend that telephone companies provide an annual telephone statement on request that simply and specifically lists all the services for which business customers are being charged.

South Central Bell of Tennessee and the Tennessee Public Utility Commission are to be commended for their work in developing a simple "model" bill for Tennessee telephone users.

*5. Problems facing small telephone companies*

There are approximately 1,400 telephone companies in the United States. Most are small businesses according to the Small Business Administration's size standards—small telephone companies are defined as those having 1,500 or fewer employees. Small telephone companies serve predominantly rural areas.

The Committee finds that there are a number of problems facing small telephone companies as a result of FCC decisions and the divestiture of AT&T. Some of the problems are:

> Added paperwork burdens; uncertainty over revenues; planned revisions to the uniform system of accounts; FCC's proposed equal access requirements; and post-divestiture billing procedures.

It is disturbing that the FCC, until recently, ignored these problems. Prior to divestiture, the Commission stated repeatedly that new costs would not be incurred by local, non-Bell telephone companies. This is not what the Task Force found.

*1. Paperwork burdens.*—Added paperwork was overwhelmingly the biggest burden mentioned by small telephone company representatives. They gave several examples of the problem including data requests, complexities in proposed new methodologies and formulae for determining interstate rates of return, multiple tariffs, interstate and intrastate access revenue pools and new billing procedures. Witnesses also pointed out that many State regulators are duplicating Federal procedures, thereby doubling the paperwork burden.

Highlighting the effect of this flood of paperwork, a witness stated:

> The quantity of paperwork in the form of data requests, revenue and cost information, and reports has increased ten-fold. The cost of deregulation in the form of manpower and expenses has been staggering.—Robert McArton, Manager, Grand River Mutual Telephone Corporation, Princeton, MO, Testimony, August 24, 1984.

Increased expenses caused by divestiture are causing local rates to increase.

Appeals to the FCC to take action to reduce the paperwork burden have not been notably successful. Ms. Louise Brown, President of Loretto Telephone Co., Loretto, TN, described the Commission reaction to her appeals:

> The FCC has refused to consider the effects of its decisions on the paperwork burden created for small telephone companies. Major decisions, such as in dockets 78-72 and 80-286 contain no Regulatory Flexibility Analysis. The Commission's reasoning is that small telephone companies do not fit with the definition of a "small business" as it appears in the Small Business Act as referenced by the Regulatory Flexibility Act (5 U.S.C. § 601-612). The Commission contends that small telephone companies are dominant in their field of operations and, thus, do not fit within the definition.

The Task Force disagrees with the Commission in this assessment. A characteristic of dominance in a field of operation is the ability to control price in the marketplace. Small telephone systems, whose tariffs are governed by regulators in most States, and who may depend for up to 80 percent of their gross revenues on interstate settlements, cannot set the price for services.

*2. Uncertainty over revenues.*—As witnesses explained, before divestiture, small telephone companies could rely on predictable and adequate revenues. After divestiture, there has been uncertainty and confusion about the level of telephone revenues and from where they will come.

*3. Planned revisions to the Uniform System of Accounts.*—The representatives of rural telephone systems cited proposed FCC accounting changes as an additional source of paperwork. The FCC is about to consider proposed changes in the existing Uniform System of Accounts. There is considerable apprehension that the new proposal will require a considerable increase in recordkeeping, particularly for small entities. As stated by Jack Keen, president of Western New Mexico Telephone Co.:

> Such detail might be appropriate for huge companies. However, for smaller companies with fewer employers that have to serve many functions (an increase in detail would be) devastating, both in expense and the burden on limited manpower. * * *

The FCC has not yet completed its consideration of the Uniform System of Accounts. However, it is clear that every effort should be made to minimize the amount of detailed information required of small systems.

### *6. Deaveraging of toll rates*

According to the Rural Electrification Administration (REA), toll rate deaveraging will increase long-distance rates paid by nonurban telephone customers as much as two or three times.[4] Toll rate averaging means that the same rate is charged for all calls of equal distance, duration, and class (time of day). Presently, all AT&T long-distance rates are averaged and do not necessarily reflect the true costs of providing communication links between two given points. In the past, the FCC has encouraged the use of average long-distance toll rates.

FCC Chairman Fowler told the Task Force that the May 1984 reduction in interstate toll rates is the first benefit to the public at large from the new access charge environment. However, Chairman Fowler also noted "that not everyone will profit immediately" under the new pricing scheme. Rural telephole company representatives concurred with this statement.

Rural telephone representative testified before the Task Force that, to date, small business customers in rural areas have witnessed the upward pressures on rural telephone rates, but have not been the recipients of benefits in the way of reduced interstate rates, which Federal regulators promised. As expressed by Jack Keen, president of Western New Mexico Telephone Company:

> The Greatest injustice is that the rural subscribers who would experience the heaviest impact of end user charges will be the last to benefit from the MTS/WATS competition upon which the development of FCC's access charge plan is predicated.

Rural areas generally have high costs, low density, and are geographically distant from urban areas. Thus, rural areas are not attracting additional long-distance carriers. As a consequence, there is virtually no long-distance competition in these areas to put downward pressure on long distance.

AT&T has indicated in FCC proceedings that it will seek deaveraging under certain circumstances. We are concerned that this will cause an unprecedented increase in long-distance rates in nonurban areas. Deaveraging of toll rates coupled with recent local rate increases will force subscribers to drastically reduce their usage of the telephone. We believe this would further isolate rural America and severely hinder economic development in rural areas.

## D.—THE CONTROVERSY OVER NONTRAFFIC SENSITIVE (NTS) COSTS

### 1. *Introduction*

The major portion of telephone exchange plant (the local telephone company offices) is jointly used for local, State, and interstate calls, and increasingly for specialized new services. Much of this jointly used plant is nontraffic sensitive (NTS). These facilities are required for the origination and termination of all traffic—their costs are not determined by the volume of traffic.[5]

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[4] Harold V. Hunter, Administrator, the Rural Electrification Administration, United States Department of Agriculture, Testimony before the Committee on Government Operations, May 18, 1983.

[5] Richard Gabel, "Exchange Plant Investment," in "Adjusting to Regulatory, Pricing, and Marketing Realities," MSU Public Utilities Paper Institute of Public Utilities, Michigan State University, East Lansing, MI, p 452.

The NTS costs of the local network are between $40 and $44 billion. Until the FCC's access fee decision, interstate long-distance charges contributed approximately 25 percent, or $11 billion, toward the local NTS costs. The FCC's original decision (and its stated goal) would have shifted most NTS costs to the local telephone subscriber—the "end user" in the FCC's terminology.

The FCC should have taken a slow prudent course of action—many were and are available. Following are just a few of the controversies surrounding the nontraffic sensitive costs issue.

### *2. Allocation of joint costs*

It is well known that both special services and long-distance services add to both local nontraffic sensitive and traffic sensitive costs. Enhanced long-distance services require more costly, more sophisticated local equipment. Loops designed only for local telephone services would be much less costly than loops designed for long-distance and enhanced services.[6]

The question is how these common NTS costs—costs common to local, long-distance, and enhanced services—should be allocated. Should nearly all NTS costs be assigned to the local telephone subscriber regardless of the subscriber's usage of long-distance or enhanced services? The FCC access charge decision would do so. The Commission believes that the transfer of revenue from long-distance charges to the local network is a subsidy, but that question is still open.

The alleged "subsidy" that interstate long-distance charges pays to local exchanges may well be a contribution toward common local facility costs.[7] "Economic efficiency requires that the long-distance carriers purchase all of the resources necessary to provide their services to their subscribers."[8] This means that long-distance services should pay for the local network resources which they use.

### *3. What are NTS costs?*

Equally disturbing has been the FCC's treatment of the composition of NTS costs. The concept of NTS costs was developed in 1971 for the purpose of jurisdictional cost separations and presumed to be appropriate for setting access charges.[9] Some experts argue that these costs do not represent the costs of subscriber loops in the economic sense, but were merely one possible allocation of a portion of local network investments.[10]

Data from the District of Columbia telephone company, (C&P Telephone Co.) prepared in 1982 include major portions of investment and expenses that have little to do with the local loops. "For instance, the NTS category includes such items as general office space, motor vehicles, marketing, pensions, and license fees."[11]

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[6] Ibid, p. 477.

[7] William H. Melody, "Cost Standards for Judging Local Exchange Rates," in H.M. Trebing, ed., "Diversification, Deregulation and Increased Uncertainty in Public Utility Industries," East Lansing; Institute of Public Utilities (1983), pp. 474–95.

[8] Walter G. Bolter, Jerry B. Duvall, Fred J. Kelsey, James W. McConnaughey. "Telecommunications Policy for the 1980's—The Transition to Competition," (Washington Program, Annenberg School of Communications, Prentice Hall, Englewood Cliffs, NJ, 1984.

[9] Ibid.

[10] Ibid.

[11] Ibid.

For the 13 years since the establishment of the "NTS" and "TS" categories in 1971, little or no testing of traffic sensitivity has been done. "As a result, the 'NTS' and 'TS' labels are misleading. It would be just as appropriate to label these 'Category A' and 'Category B' for the purpose of jurisdictional cost separations." [12]

According to communications experts: ". . . it is not inconceivable that independent calculations of the NTS loop costs could significantly reduce the size of the access charges."[13]

### 4. *"Economic" versus book costs*

Some economists argue persuasively that current "book costs" (of which NTS costs are a portion) far exceed "economic" costs.[14] Economic costs are the minimum costs necessary to produce a product or service—they are the costs that would obtain in a truly competitive industry.

The monopoly status of the telephone industry for so many years gave incentive to the buildup of book costs over economic costs in two ways. First, telephone companies are entitled, under various past court decisions, to an opportunity to recover all of their historical book costs, plus the allowed rate of return on their investments regardless of whether those book costs matched economic costs.[15] In other words, management miscalculations can be added into the rate base.

Second, there are no competitive forces to squeeze the slack out of the monopoly telephone companies. "Competitive markets would long ago have forced the telephone companies to adjust their costs to reflect economic costs, even if that meant having to take capital losses on their past investment."[16] In competitive industries, investment mistakes must be written-off and slack management is rewarded with low profits.

Because of all of these factors there is a lack of consensus even within the telephone industry over which costs are traffic sensitive and which costs are nontraffic sensitive.[17]

It must be said in defense of the FCC, that, since 1978, the FCC has worked to revise the Uniform System of Accounts (USoA) under which the major telephone companies must operate. The Commission has attempted to devise an accounting system that will allow both State and Federal regulators to more accurately determine the costs of various services. The staff of the FCC is to be commended for their diligence and hard work in this area. The new USoA is particularly critical at a time when some of the services offered by the telephone companies are in competitive markets while others are still in regulated monopoly markets. Revenues from customers of monopoly services—local service for example—must not be used to subsidize emerging competitive services—long-distance for example.

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[12] Ibid.

[13] Ibid.

[14] Nina Cornell, Michael D. Pelcovits, and Steven R. Brenner, "Toward Competition in Phone Services: A legacy of Regulatory Failure," Regulation, July/August 1983.

[15] Ibid.

[16] Ibid.

[17] Richard Gable, "Exchange Plant Investments" p. 477.

It is illogical for the FCC to move to "cost-based pricing" before having a cost-based accounting system in place. At this time, the FCC and State regulatory commissions must conduct special studies to determine the costs of various services. There has been no comprehensive, fully distributed cost study of telephone services by either the FCC or telephone companies.

Exemplifying this controversy is testimony presented to the Task Force in Seattle on August 23, 1984, by Jim Bernau, Executive Director of the Oregon NFIB. Bernau revealed that Pacific Northwest Bell asked for $14 dollars per line per month for "hunting." The Oregon Public Utility Commission set the rate at $7 per month per line. Much digging by accounting experts eventually turned up the fact the "hunting" actually costs something less than $0.90 per month per line.

Commenting on this problem in the same hearing, Mark S. Dodson, stated, "The end result is that the businessman becomes so skeptical that he believes that all proposals are not cost-based pricing, but, as Dr. Melody,[18] once said, price-based costing. In other words, the phone company determines its price and then establishes the justification."

### *5. Conclusion*

The local phone system is the remaining monopoly element of the telecommunications industry. Regulators, particularly the FCC, should be extremely cautious in determining the charges that are assigned to that remaining monopoly element. It is a fact that the Commission has not performed a hard-headed independent audit of NTS costs and has not made a reasonable assignment of NTS costs to local, long-distance, and enhanced services.

## E.—BYPASS: CONTROVERSIAL AND POTENTIALLY SERIOUS

### *1. Introduction*

For the last year and one-half, the Federal Communications Commission has taken the position that a multibillion dollar long-distance access fee on telephone subscribers is necessary to prevent bypass.

The argument of the FCC is as follows: Long-distance interstate tolls include a contribution to local nontraffic sensitive (NTS) costs. Heavy users of long-distance service, therefore, contribute a substantial amount to local network costs. If the heavy long-distance users directly connect with long-distance carriers, they bypass the local network. Then the local telephone companies which own the local network will lose a substantial amount of revenue. The remaining residential and small business subscribers on the local network would have to make up the lost revenue. As a consequence, rates would go up; some residential users would be forced to drop off the system; and many small businesses would be forced to cut back on the level of their telephone service.

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[18] Dr. William H. Melody, Professor, Department of Communications, Simon Fraser University, Vancouver, Bristish Columbia.

### *2. Definition of bypass*

Telephone customers who band together to buy PBX (their own switching) and WATS and private lines from local telephone companies are not bypassers but are, in fact, cost minimizers responding to market incentives. Circumventing the local network by interconnecting directly to a long-distance provider is bypass.

Bypass, thus, is the use of nontelephone company facilities between the telephone subscriber's location and the long-distance carriers' local point of presence (POP) in order to avoid usage based access charges to long distance service. Or, a business or businesses may bypass the local telephone company by building their own private long-distance system, say between two company locations.

### *3. The controversy over bypass*

There are a number of important controversies concerning bypass.

(1) Is the current level of bypass a serious threat to the local telephone companies' revenues?

(2) Is the potential for bypass a serious threat?

(3) If bypass is a serious threat, what are its causes? What is the best way to deal with it? Are access fees the best and only alternative?

The divestiture of AT&T has greatly increased the ability of heavy long-distance users to connect directly to long-distance carriers. The incentive to bypass derives from the desire to reduce costs. Currently about $0.11 per minute of long-distance tolls goes to local nontraffic sensitive costs. Direct access to the long-distance carrier can reduce these costs substantially for a heavy long-distance user.

### *4. The FCC failed to study the bypass threat until recently*

One aspect of the bypass discussion has been the vehemence of the FCC's argument that bypass is an immediate and massive threat to the telephone system and justifies the imposition of access charges. The FCC's vehemence preceded its study of bypass by some considerable time. As of October 1984, it still had not released its final bypass study. This contrasts sharply with the timing of its access fee decision in December 1982. The fact is the FCC argued that bypass was a "serious" threat to the system before making a thorough study. The "bypass threat" appears to be, in part, a defense of unpopular FCC policies.

Certainly at the time of the divestiture, bypass was not singled out as the cause of local telephone service rate increases. Nor did telephone experts believe local rates would rise substantially from other causes. For example, the Chairman of AT&T stated unequivocably in his testimony to the joint hearings of the Committee on Energy and Commerce and the Committee on Judiciary, in January 1982, that any future increases in local telephone rates would be extremely modest:

> Last, I would like to talk for a moment about this rate matter which has received a lot of attention, a good portion of it erroneous. It has been said erroneously that this decree will have a major effect on increasing local rates. This is not, this is not, the case. The regulators maintain

> the power to control the subsidy of long-distance rates locally.
>
> Entirely apart from this decree and as we have been saying for many years, rates will go up for other reasons. Rates have been rising at about 4 percent a year on the average, well below any inflation figures we all have seen in many, many years.
>
> They will go up at about 8 to 10 percent for a few years. The causes are not this consent decree. The causes are inflation, offset to a high degree by Bell System productivity.
>
> Second, changes over the years in the way regulators calculate the subsidy for local rates.
>
> Third, accounting changes to put the cost of installation, and moves and changes in telephone service on the customers who ask them, rather than on the customer body as a whole.
>
> And fourth, depreciation. Competition and technology changes act to shorten equipment lives. This increases depreciation expense.
>
> What all this comes down to for the average customer is a relatively small increase in local rates, having little or nothing to do with this consent decree.
>
> The average monthly rate now for local service is about $10 a month across the country. *Due to the factors I have just outlined, we would expect that to increase each year for the next few years by less than $1 a year.* (Emphasis added.)
>
> Telephone rates are a bargain now. They will remain so in the future.—Charles Brown, Chairman, AT&T, January, 1982.

In addition, at joint hearings before the Senate Committee on Commerce, Science and Transportation and the House Committee on Energy and Commerce on July 29, 1983, Mr. Brown reiterated his position that divestiture would not cause local rates to rise. His views were supported at that hearing by the representatives of the local Bell Operating Companies.

Recently, however, some telephone companies have stated that local rates must rise substantially in order to prevent bypass.[19]

Other witnesses have stated that the "bypass threat" appears to be, in part, a convenient rationale to shift billions of dollars in costs from long-distance to local telephone users.

### *5. The current level of bypass—not significant today*

By all accounts, the current level of bypass is modest. The Touche-Ross accounting firm has done a number of bypass studies for various Bell Operating Companies. In testimony to the Task Force (September 25, 1984), a Touche-Ross representative stated that one in four of the heaviest long-distance users divert some traffic from the local loops of the telephone company. According to Touche-Ross, the amount of traffic diverted is usually 10 to 20 percent of their total traffic originating from a location with bypass facilities. Note that only those locations with bypass facilities can bypass. Large companies with many branch locations, do not totally bypass the local network.

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[19] See for instance, Mr. William W. Betteridge, AT&T and Mr. Thomas D. Smith, USWEST/Iowa Northwestern Bell, Testimony, June 26, 1984.

A very generous estimate of total bypass based on Touche-Ross data is 1 to 2 percent of total long-distance traffic.[20] This is undoubtedly an overestimate. One or 2 percent is not a threat to the revenues of the local companies.

Furthermore, the growth of revenues of the domestic telephone and telegraph companies dwarfs the current level of bypass. From 1972 through 1984, their revenues grew at a compound annual rate of 7.7 percent in real dollars (constant 1972 dollars). This is more than twice the growth rate of the economy.

It is very clear from testimony presented to the Task Force that the current level of bypass is minimal compared to the annual growth rate of telephone industry.

### *6. The potential for bypass—conflicting views*

The potential for additional bypass of the local telephone network, however, appears to be serious but is unknown. For heavy users of long-distance, a direct link to a long-distance carrier is often the least expensive option. In the long run, businesses which can realize large savings by bypassing the local network are likely to do so because, of course, businessmen and women minimize costs where possible.

However, in spite of the many studies on bypass, there is no consensus on the potential for bypass. At the present, the threat of bypass due to price considerations alone appears to be overstated. Testimony presented to the Task Force states that service quality and technology are the major forces driving bypass.[21] Other studies found the same. "Most large users plan to move toward a high speed digital network capable of integrating voice, date, and video. If users see bypass as a suitable tool in getting to their goals, then they will turn to bypass." [22]

Allen Risely of the National Telecommunications and Information Administration (NTIA) writes about the strength of the local network, "Based on my SBS study, and all the other work I have done on competition with telco transmission, there is perhaps one conclusion that stands out above all others. Considering business traffic as a whole, there is in operation today virtually no cost-effective alternative to the telco (the local telephone network) in directly connecting an end user with either a local switch or a long-haul facility." [23] In other words, the most cost-effective local telephone service is still generally the local telephone company.

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[20] Assume that heavy long-distance users make 50 percent of all long-distance calls, that about 25 percent bypass (as stated by Touche-Ross), and that 10 to 20 percent of the traffic originating from locations with bypass facilities is diverted.

Then—$0.50 \times 0.25 \times 0.10 = 0.0125 = 1.25$ percent and $0.50 \times 0.25 \times 0.20 = 0.0250 = 2.5$ percent.

NOTE.—That this estimate (derived from Touche-Ross testimony) will be high because not all locations of bypassing companies have bypass facilities.

[21] Walter G. Bolter and James W. McConnaghey, Bethesda Research Institute, Testimony September 25, 1984, and Brian Moir, Esquire, testimony, September 1984.

[22] Louis Feldner, "A Revolution in User Expectations: The New Demand for User-owned Networks," in Adjusting to Regulatory, Pricing and Marketing Realities, MSU Public Utilities Papers, Michigan State University, East Lansing, MI. 1983, p. 123.

[23] Allen Risely, "A Preliminary Report on a Survey of SBS Users." (June 1982).

Competition in long-distance will begin to force down rates as market penetration by the other long-distance carriers increases. "AT&T will probably adopt nonlinear or 'tapered' rate structures for MTS (measured toll service) that reflect price discrimination based on the volume of usage. Tapered rates should alleviate, to some extent, the incentive for large users to bypass the public switched network. . . ." [24]

### *7. Conclusion*

Although the Committee sees bypass as a potentially serious problem, it does not appear to be so serious that a precipitous repricing of telephone service is justified at this time. A more gradual and less radical shift of revenue requirements from long-distance tolls to local rates appears to be a much more reasonable course of action. The FCC should move carefully and give competition an opportunity to reduce long-distance rates.

Much of the bypass problem is caused by poor service quality and lack of high technology services. Thus, it is in the hands of the telephone companies themselves to prevent most bypass.

## F.—ECONOMIC EFFICIENCY

### *1. Introduction to the controversy*

The FCC's claim that the most economically efficient pricing mechanism is the end-user access fee technique is questionable on many fronts. It fails to consider the complexity of the industry. From an economic efficiency standpoint, the telecommunications market is far from the text book examples of perfection. The many deviations from the perfect competitive model means that the telephone consumer is likely to pay more than if the market were "perfectly competitive." The telephone industry deviates from the perfectly competitive market model in the following ways:

—Local telephone service is nearly a perfect monopoly. Shifting all fixed-costs to the local subscriber can be termed monopolistic pricing.

—The interlata long-distance market is at this time a near monopoly with one seller producing 90 percent of long-distance services. Until it is competitive, the potential for price distortion exists.

—The public benefits of a universal telephone system are neglected by the FCC plan. (There is no market for these public goods and services.)

—The consumer cannot buy only local telephone service, but is forced to purchase a more expensive local loop that has the potential for long-distance. Consumers, in a perfect market, would have a choice, but there is no possibility of buying only local services.

—The end-user access charge is equivalent to a flat tax on all telephone subscribers—it is not necessarily that most economically efficient way of financing the telephone system.

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[24] Jerry B. Duvall, "Emerging Rate Structures in Interstate Telecommunications," in Adjusting to Regulatory Pricing, and Marketing Realities, MSU Public Utilities Papers, Michigan State University, East Lansing, MI, 1983, p. 403.

—Much of the so-called nontariff sensitive costs being shifted to the end-user in the monopoly sector of the market is highly questionable and would have to be written off in a competitive market.

—Economic efficiency requires that long-distance users pay for all of the resources necessary to produce long-distance service. Because long-distance service increases the cost of the local network, long-distance charges should, in an economically efficient world, contribute to the costs of the local network.

### *2. Monopoly elements*

Based on the economic text book definition of perfect competition, there are major sectors of the telecommunications industry which are not competitive. For example, the local network remains a monopoly. Interlata long-distance service has competitors, but little competition, because a single company has over 90 percent of the sales. The monopoly character of telephone service is the fact that made regulation necessary; that monopoly characteristic still exists in a large part of the telephone industry. Only the equipment sector of the telecommunications industry appears to be truly competitive in the strictest sense of that term; i.e., no single competitor can affect the price.

### *3. The missing local service market*

Local facilities are more costly because they are built to provide local service, enhanced services, and longdistance services. Unfortunately, there exists no market for just local services. Customers desiring telephone services must buy local, enhanced, and long-distance in a lump. The end-user access fee decision would discriminate against those who do not or would not purchase long-distance service if it were unbundled from local service. Many people, including many local small businesses, would purchase only local service if that were an option and use a pay-phone for their limited long-distance calling. Forcing everyone to pay the extra costs associated with providing long-distance is neither economically efficient nor equitable.

### *4. The missing market for the public benefits of universal telephone service*

A universal telephone system provides economic and social benefits to the Nation far in excess of the direct costs of the system—a positive externality in economic terms. There is, of course, no market where these positive benefits to society are exchanged. This "missing market" must, therefore, be taken into consideration in the efficiency calculus of the FCC. The access fee decision appears to neglect the positive benefits of universal service.

### *5. "Access fees" are equivalent to a tax*

Economic theory tells us that it is probably inefficient to use a flat rate access fee or flat "tax" to pay for all of the fixed costs associated with the provision of a good with public benefits (positive externalities). Universal telephone service is such a good.

This flat "tax" is also being used to pay for local facilities that are more costly because they must service long-distance. It is not economically efficient or fair to use a flat tax to pay for the higher quality of the local loops necessary to have long-distance.

Specifically, economic efficiency criteria suggest that the access fee or tax should be variable and that no one should be forced off the system because of a high charge for fixed costs.[25]

Instead of considering the complexity of the telephone industry and market, the FCC shifted costs to the remaining monopoly sector of the market—the local network.[26]

Many of the costs shifted to the local network subscriber are, in themselves, highly questionable and would have to be written-off in a competitive market. (See the section on NTS costs.)

### *6. Long-distance service must pay its share*

The FCC and others have also argued that the "end user" or telephone subscriber will eventually have to pay the costs of the local facilities anyway, so, they should pay the costs in an access fee. Many economists disagree. "Some economic theories, which maintain their concern for efficient resource allocation, do not support the ('trickle down') notion that since consumers as a class must cover the cost of production eventually, all costs should be assigned directly on end users in the form of a tax. If this prescription were applied to the economy as a whole, consumers could simply be taxed for the cost of all production in the economy, and consumer choice through the market system would be destroyed." [27] Economic efficiency requires that long-distance service pay for all the resources that it consumes in its production including the extra costs it imposes on the local network.[28]

## G.—THERE ARE REASONABLE ALTERNATIVES TO THE FCC'S END-USER, ACCESS CHARGE PLAN

It is the responsibility of the FCC to assign costs fairly between interstate long-distance and local rate payers. Instead, it appears that the FCC has engaged in monopolistic pricing by shifting billions in charges to the customers of the remaining monopoly element of the telephone system. With some very reasonable alternatives available, it was unnecessary for the FCC to select such a radical restructuring of pricing in the industry.

It is in the public interest for the FCC to consider a number of alternatives to their end-user, access charge plan. In its investigation of alternatives, the FCC should carefully examine their potential effects. Specifically, the FCC should do the following at a minimums.

(a) Analyze the effects of various alternatives on small business, small telephone companies, and residential subscribers.

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[25] See, for instance, K.J. Arrow and F.H. Hahn, "General Competitive Analysis," Oliver & Boyd, Edinburgh, 1971; Peter Bohm, "Social Efficiency; A Concise Introduction to Welfare Economics," John Wiley & Sons, New York: 1973; and W. Arthur Lewis, "Overhead Costs: Some Essays in Economic Analysis," Augustus M. Kelly, New York, 1970.

[26] Walter G. Bolter, Jerry B. Duvall, Fred J. Kelsey, James M. McConnaughey. "Telecommunications Policy in the 1980s: The Transition to Competition," Washington Program, Annenberg School of Communications, Prentice-Hall, Englewood Cliffs, NJ, 1984.

[27] Ibid.

[28] Ibid.

(2) Determine the potential for bypass under the various alternatives.

(3) Determine the costs of basic local services. (This last is necessary to avoid charging the local subscriber for costs imposed by long-distance and enhanced services.)

A wide range of alternatives has been proposed by various telecommunications experts.[29] The basic elements of suggested alternatives are as follows:

(1) Only a portion of the revenue requirement assigned to long-distance need be shifted back to the local level in order to prevent "bypass."

(2) State and Federal regulators could provide for volume discounts and tapered rates for long-distance. Bulk discounts for heavy users could easily provide a much less radical way of avoiding bypass.

(3) An upper limit could be put on the amount of NTS costs paid per line through long distance charges. Customers would continue to pay NTS costs only in proportion to their interstate toll use, but those payments would have a predesignated upper limit.

(4) In conjunction with one or more of the above, interexchange or long-distance carriers could be prohibited from directly connecting to telephone subscribers. This will allow competition to bring down long-distance rates for heavy users.

(5) The State regulatory commissions could be given this authority, within FCC guidelines, to determine how that portion of NTS costs shifted to the "end-user" are to be paid (the St. Louis Resolution). Conditions vary from State to State and, therefore, local commissioners should be best able to determine how access charges should be allocated.

## CHAPTER III.—UNIVERSAL SERVICE

### A.—INTRODUCTION

Eighty-three years ago AT&T set universal telephone service as a goal:

> That the system be complete and of greatest utility, it is necessary that as many persons as possible should be connected to it. . . .—AT&T Annual Report, 1901.

Over 50 years ago, Congress also established universal service as a goal in the Communications Act of 1934:

> . . . For the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all people of the

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[29] See, for example, State of New York Department of Public Service, Comments in the Matter of MTS and WATS Market Structure, CC Docket No. 78-72.

Gene Kimmelman, Testimony, September 25, 1984. Walter G. Bolter, Jerry B. Duvall, Fred J. Delsey, and James M. McConnaughey, "Telecommunications Policy in the 1980s: The Transition to Competition," Washington Program, Annenberg School of Communications, Prentice-Hall, Englewood Cliffs, NJ., 1984.

National Association of Regulatory Utility Commissioners, St. Louis Resolution, May 8, 1984. National Telecommunications and Information Administration, U.S. Department of Commerce, Comments before the FCC on flexibility in pricing and the St. Louis Resolution.

> United States a rapid, efficient, Nationwide, and worldwide wire and radio communication service with adequate facilities at reasonable charges. . . .

The concept of universal service has not lost its value with age. In fact, in the information age, universal service is even more essential to the social and economic well-being of the Nation than ever before.

The Committee on Small Business is committed to working for universal service. To that end we recommend a Universal Service Fund that provides assistance to people in high cost, low density areas. We believe that a strong universal service fund is absolutely essential if we are to avoid a two-tiered information society with an information "underclass."

The key elements of a Universal Service Fund are: (1) the development of a fair method of providing revenue to the fund, and (2) an equitable and economically efficient mechanism for distribution of funds to high cost areas.

Universal service is not simply an abstract equity consideration or a luxury, but is essential to the economic well being of small businesses throughout the Nation. The telephone is the essential link between small businessmen and women and their customers.

Many economists argue that the benefits to society of a universal telephone system far outweigh the costs.[1] Certainly the telephone system is a prerequisite for many small businesses. It is essential to their economic well-being that the United States have an affordable universal telephone system.

### B.—THE UNIVERSAL SERVICE FUND: HIGH COST AREAS

We have made the greatest strides toward achieving our goal of universal service during the past 20 years. Achieving a comprehensive telephone system, in highly-populated areas was easier than in rural areas. In rural, sparsely populated areas, it has been and, in many cases, still is a continual struggle.

As a result of the Federal Communications Commission's recent decision and the divestiture of AT&T, the survival of telephone systems serving high cost, rural areas is threatened. Therefore, our national commitment to a universal telephone system is challenged. The Committee notes that, with its original access charge plan, the FCC failed to consider the unique problems facing rural, high cost telephone companies and provide a level of support which will preserve universal service. This problem should be resolved.

The Committee is concerned that the small, rural telephone systems are in jeopardy. There rural systems have brought basic telephone service to millions of rural Americans. They have stimulated rural economic development and contributed to the most efficient agricultural industry in the world. Just as importantly, they help bind our country together.

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[1] See, for instance, Walter G. Bolter, Jerry B. Duvall, Fred J. Kelsey, James W. McConnaughey, "Telecommunications Policy for the 1980's: The Transition to Competition," (Washington Program, Annenberg School of Communication) Prentice Hall, Englewood Cliffs, NJ, forthcoming.

In the past, these telephone companies could rely on predictable and adequate revenues. Rates and costs were shared between high cost rural areas and low cost urban areas. This enabled both areas to have reasonable and affordable rates even though their cost structures were different. Today, there is uncertainty and confusion about the level of telephone revenues, as well as the nature of future deregulatory decisions by the FCC. Most importantly, representatives of these telephone systems are gravely concerned that their subscribers will not be able to afford the increased costs of using a telephone. The Rural Electification Administration (REA) estimates that 21 percent of their borrowers would have had to impose monthly increases of 200 percent or more had the FCC's access charge plan gone into effect as originally constituted. Another 40 percent would have had to increase rates 100 to 200 percent. Monthly rates would have ranged from $30 to $55 and up.[2]

Based on testimony received by the Task Force, the Committee believes assistance must be provided through a Universal Service Fund. This fund would be used to help defray the cost of providing local telephone service in high cost rural areas.

Mr. Robert McArton, manager of Grant River Mutual Telephone Corporation, a small telephone company serving rural Missouri and Iowa, addressed the Task Force on behalf of the National Telephone Cooperative Association (NTCA) and discussed the uncertainties as viewed by rural telephone companies:

> The recent industry changes have resulted in a losss of traditional revenues and uncertainty about revenue recovery under a new system of allocating revenues, which is still evolving. Additionally, we are being asked to adapt almost overnight to a competitive environment. All of this leaves small, rural telephone systems with a very uncertain picture of their future. More importantly, it leaves rural telephone subscribers wondering whether they will be able to afford telephone service in the near future.

The FCC has recently recognized that its Access Charge Plan will have an adverse effect on telephone systems in high cost areas. Therefore, the Commission is currently reviewing aspects of its access charge decision concerning the issue of high cost support. Eligibility for high cost support is a crucial issue for rural subscribers. Both the calculation of company costs and the level of reimbursement of high cost companies will determine how much of a burden small business subscribers will have to bear.

Witnesses unanimously concluded that the level of assistance under the current FCC plan (October 1984) is inadequate to preserve universal service in high cost rural areas. Many witnesses also expressed concern that the individual company's actual cost of debt be used in its cost calculation. They feel this would penalize those rural telephone systems that borrow from the programs of the Rural Electrification Administration (REA) because it lowers their costs relative to those of non-REA borrowers. National average non-traffic sensitive (NTS) costs are calculated using a national average cost of debt; for consistency the national cost of debt should also be used to calculate the high cost factor.[3]

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[2] Harold V. Hunter, Administrator, Rural Electrification Administration, U.S. Department of Agriculture, testimony before the Committee on Government Operations, May 18, 1983.

## CHAPTER IV.—LOCAL MEASURED SERVICE

### A.—INTRODUCTION

Local measured service (LMS) is the name for usage sensitive pricing for local telephone calls. It means that telephone users pay for each local telephone call much the same way they currently pay for long-distance service. Usually, the amount of the charge per local call varies by the time of day, day of the week, distance, and by length of call.

Although LMS appears to be primarily a State regulatory issue, no national policy analysis would be complete without serious consideration of LMS. The reasons are simple. First, evidence presented to the Task Force suggests that many LMS systems may have serious detrimental economic effects on business telephone users. This evidence also indicates that nationwide imposition of LMS may increase the total cost of the national telephone system by several billion dollars[1] and that small businesses would bear a large proportion of the increase.[2]

Second, many experts believe that LMS will reduce economic efficiency by further distoring the telephone service pricing system. Evidence indicates that under LMS, some individuals will contribute far more revenue to the local telephone system than they impose costs on it. According to this argument, any pricing distortions and inequities under the current flat rate pricing system will be dwarfed by those under LMS.

Third, the LMS issue taken together with the controversy over long-distance, end-user, access charges illustrates a striking inconsistency in some telephone companies' arguments. On the national level, some have argued that most local telephone system costs are fixed, or nontraffic sensitive; that long-distance calls have little effect on local costs. Yet, these very same people contend that local measured service is necessary because the cost of the local network is cost sensitive to local telephone calls. From a national policy perspective, the overriding goal is to keep the costs of providing local monopoly telephone service as low as possible while satisfying subscriber needs to the greatest extent possible. LMS appears inconsistent with the goal.[3]

### B.—LOCAL MEASURED SERVICE—WILL IT REDUCE COSTS?

The local telephone system has two principal elements: (1) access lines dedicated to the exclusive use of individual customers, (2) switching and transmission facilities provided as a common pool of resources and available to all customers on an as needed basis.[4]

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[3] The recommendations of the Federal-State Joint Board, "Recommended Decision and Order," released November 23, 1984, if adopted by the FCC will revise the Universal Service Fund (assistance to small telephone companies in high cost areas) and the calculation of costs of small telephone companies. The recommendations are, in part, responsive to the small telephone companies' concerns as expressed in the hearings and in this report.

[1] Selwyn, Lee L., Testimony presented September 25, 1984, to Committee on Small Business, Telephone Task Force.

[2] See testimony from Telephone Task Force hearing, August 23, 1984.

[3] Selwyn, Lee L., Testimony, September 25, 1984.

The telephone industry has argued that the cost of the access lines does not vary with the level of use.[5] In contrast, the cost of switching is usage sensitive. At issue in pricing the switching service is how to allocate the costs which are jointly incurred to serve customers. The cost of the common switching resources are determined by the switching capacity of the system. In turn, switching capacity is determined by the peak hour calling demand for switching services.[6] Each access line constitutes potential demand for switching. An increase in calling during the peak hours increases costs because it increases the demand for peak hour switching service.

LMS potentially increases economic efficiency if it reduces the total costs of the telephone system. However, LMS can reduce total costs if, and only if, it reduces the peak hour demand on the common switching facilities. In addition, LMS is economically efficient only if the reduction in switching costs is greater than the cost of LMS.[7] These criteria are simple and strightforward. Unfortunately, available evidence indicates that few LMS pricing schemes appear to satisfy them.[8]

The costs of LMS are twofold: (1) the measurement costs of LMS include the cost of the equipment to measure each local call, the additional bookkeeping, billing, and recordkeeping costs, and (2) the economic value of foregone calls—the value of those calls that would have been made under a flat rate billing system but are not made under LMS.[9]

### C.—EVIDENCE ON COSTS

Evidence presented to the Task Force indicates that the cost of LMS generally exceeds the benefits and will add to the total cost of the telephone system.[10]

In New York, the average cost per flat rate call was found to average 6.63 cents, while the average cost of a local measured service call was 9.21 cents, a difference of 2.58 cents. Selwyn (1984) attributes 1.50 cents per call of the difference to the costs of LMS. Even the New York Telephone company admits that LMS costs 0.76 cents per call more than flat rate service.[11]

In Maine, the New England Telephone Company (NET) estimates that the capital costs of going to LMS would increase the annual revenue requirement of NET by $4 million. NET estimated that it would require a 32-percent drop in the volume of local messages to make up the $4 million. It is unrealistic to expect such a drop in telephone usage.

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[4] Ibid.

[5] Committee on Energy and Commerce, U.S. House of Representatives, Joint Hearings, July 28 and 29, 1983, p. 279.

[6] Mitchell, Bridger M., "A Framework for Considering Local Measured Service," RAND Corporation, p. 6992, June 1984.

[7] Ibid.

[8] Selwyn, Lee L., Testimony, September 25, 1984.

[9] Mitchell, Bridger M., "A Framework for Considering Local Measured Service," RAND Corporation, p. 6992, June 1984.

[10] Selwyn, Lee L., Testimony, September 25, 1984.

[11] Ibid.

In Oregon, Pacific Northwest Bell (PNB) made a cost-benefit study of mandatory local measured service for businesses. PNB forecast a savings arising from mandatory LMS of only $1.3 million compared to a cost of $2.8 million. The net loss of economic efficiency according to PNB's own calculations is $1.5 million per year. "Although the PNB cost-benefit study recognizes that the costs of LMS will exceed the benefits, company documents observe that the added costs of LMS will be recovered from customers through higher rate levels." [12]

In a recent rate filing case, Pennsylvania Bell conceded that it expected no improvement in economic efficiency resulting from the imposition of LMS.[13]

One small business in Oregon, a nonprofit charity, stated at a hearing that they would have experienced a 430-percent increase in their local phone bill under LMS. Over a year's time, LMS would have increased their telephone bill from $8,000 to over $30,000.

### D.—OTHER ARGUMENTS

Some telephone companies have used a number of questionable arguments to justify LMS. Following are a few of them:

*Isn't charging for each local call just like charging for natural gas usage?* No, not exactly. The heavy capital investment and maintenance necessary to build and operate a natural gas distribution system are comparable to that for a telephone network. That, however, is where the analogy stops. Use of natural gas, is the use of a scarce, nonreproducible resource. The same is not true of making a telephone call. The marginal (additional or incremental) cost of making a local telephone call during off-peak calling hours is nearly zero. In addition, once the switching capacity of the system is determined, the cost of a call even during peak hours that does not add to capacity needs is also nearly costless.

Essentially, once the local loops (access lines) and the necessary switching equipment are in place, the incremental cost of a local telephone call is near zero.

*Shouldn't those who use the system most pay the most?* While it is true that those who put the highest cost demands on the system should pay the most, it is not true that heavy usage and high cost demands are equivalent. A customer who makes only a few calls a day, but makes them all during peak calling hours places more cost demand on the system than a customer who uses the phone extensively but only during off-peak periods.

*What is a good measure of telephone demand?* A better measure of demand is the number of access lines a customer wants.[14] Each access line is potential demand for peak hour switching.

Paradoxically, LMS pricing reduces the price of access lines (the flat monthly charge is reduced) and will therefore increase the demand for access lines and, as a consequence, increase the demand for peak-hour switching services.

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[12] Ibid.

[13] Ibid.

[14] Selwyn, Lee L., "Local Measured Service: The Known Costs and Dubious Benefits," in Adjusting to Regulatory Pricing and Marketing Realities, Proceedings of the Institute of Public Utilities, Michigan State University, 1983, pp. 557–571.

LMS will substantially increase the cost of the telephone system if communications experts like Dr. Lee Selwyn and others are correct. Many small businesses will be the big losers according to testimony received by the Task Force.

*Won't LMS help small businesses?* Again, not necessarily. Small businesses rely heavily on local telephone service to conduct business. They make a majority of their calls in the local calling area. Those small businesses which use the telephone primarily for outgoing calls will suffer a huge increase in the cost of their telephone service under LMS. The increase may bear little relationship to the costs they impose on the system.

Other small businesses which make few outgoing calls will likely enjoy a reduction in telephone charges. However, the reduction in their telephone bills may bear little relationship to the cost they impose on the system nor to the cost they impose on the system not to the importance of the telephone in their business.

*Doesn't OPTIONAL measured service benefit businesses by giving them an opportunity to choose?* Yes, some customers will be able to lower their costs. However, the majority of small businesses will eventually pay higher costs as the total cost of the system rises. This means that some customers will have to pay more in order to subsidize others according to Dr. Selwyn.

Optional LMS appears to have a cascading effect on telephone costs. Small businesses that use the phone for incoming calls will choose optional LMS as will residential customers who make few calls. Because low use customers will pay less than the costs they impose on the system, the remaining businesses and residential users will have to pay a higher flat rate charge to make up the revenue shortfall. As flat rate charges rise, more and more customers will find it cheaper to choose measured service-again pushing more costs onto the remaining flat rate customers. Eventually, a majority will choose LMS as the low cost service. However, the total telephone costs of the community will be higher.

According to testimony presented by Dr. Lee L. Selwyn:

> Whatever initial LMS rate level is advanced as a means for gaining initial approval for the pricing plan. it is clear that the industry's long range plans are to escalate local message charges. AT&T's 1979 Measured Service Implementation Guide states quite plainly that:
>
> "Residence flat rate option should be continually increased until a contributory level is reached and the price differential between MS and flat rate is significant enought to influence customer choice. . . .
>
> "MS implementation should be considered as a means to an end-contribution for Local Exchange usage. . . ."
>
> The Impact Study indicated that provision of an Optional Premium Residence Flat Rate class of service can mitigate the expenses and investment associated with a Measured Service Tariff, and provide additional revenue from those customers who choose to pay a premium for the Optional Residence Flat Rate.[15]

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[15] Selwyn, Lee L., Testimony, September 25, 1984.

*Don't most small businesses prefer local measured service?* No. Recent surveys by the National Federation of Independent Business (NFIB) (cited in testimony October 17, 1984) reveal that most small businesses oppose measured service. In a national "Mandate" survey by the NFIB, local measured service was opposed by 62 percent to only 28 percent for. In Indiana, 80 percent opposed charging on a "per-call" basis compared to only 13 percent for.

STATES WITH MEASURED SERVICE FOR BUSINESS

| | Optional | Nonoptional | Experimental |
|---|---|---|---|
| Alabama | | | X |
| Arizona | X | | |
| Arkansas | X | | X |
| California | | X | |
| Colorado | X | | |
| Connecticut | X | | |
| Delaware | X | | |
| District of Columbia | | X | |
| Florida | X | | X |
| Georgia | X | | X |
| Idaho | X | | |
| Illinois | X | | X |
| Indiana | X | | X |
| Iowa | X | | X |
| Kentucky | X | | |
| Louisiana | X | | |
| Maryland | X | | |
| Massachusetts | X | | X |
| Michigan | | X | |
| Minnesota | X | | X |
| Mississippi | X | | |
| Missouri | X | | |
| Nebraska | X | | |
| Nevada | X | | X |
| New Hampshire | X | | |
| New Jersey | | X | |
| New Mexico | X | | |
| New York | | X | |
| North Carolina | X | | X |
| North Dakota | X | | |
| Ohio | | X | |
| Oregon | X | | |
| Pennsylvania | X | | |
| Rhode Island | X | | |
| South Carolina | X | | |
| South Dakota | X | | |
| Tennessee | X | | |
| Texas | X | | |
| Utah | X | | |
| Vermont | X | | X |
| Virginia | | X | X |
| Washington | X | | |
| West Virginia | X | | |
| Wisconsin | | X | |
| Wyoming | X | | |
| Totals (45 States) | 36 | 8 | 13 |

Source: National Association of Regulatory Utility Commissions, Annual Report on Utility and Carrier Regulations, 1982 (updated for 1984), p. 646.

## CHAPTER V.—FINDINGS AND RECOMMENDATIONS

A recurring theme in the Committee's investigation has been the failure of the Federal Communications Commission to adequately analyze and evaluate the economic impact of its decisions on small businesses. The Committee has also found that, barring legislative or administrative action, many of the pricing changes in the telecommunications industry are likely to have a detrimental effect on small businesses.

Following are the Committee's findings and recommendations:

### FINDINGS

The Committee finds:

That the FCC has failed to adequately investigate the economic and social impacts of its telephone pricing decisions on small businesses.

That the FCC issued its end-user access charge decision without regard to this lack of information and in the face of disturbing and unresolved controversy among communications experts.

That the results of this decision, in conjunction with other rate increases, have been sharply rising local phone bills and economic hardship for this Nation's small businesses.

That these businesses have not been aided significantly by any offset in interstate long-distance charges since the best available data indicate that the majority of small businesses use mostly local and intrastate long distance service.

That the FCC has not proved that the imposition of access charges on small businesses is the best way to prevent bypass of the local telephone system.

That some telephone companies have pursued higher local rates and dramatic shifts in the way local service is paid for.

The Committee further finds:

#### *Rate changes*

That absent administrative and legislative changes local telephone rates will increase dramatically in the next few years.

That some shift in revenues from long-distance tolls to local systems is probably necessary. But, that the FCC's long-distance, end-user access charge plan, which will shift billions of dollars in long-distance toll costs to local telephone users, has not been proven necessary by the Commission and may serve to add substantially to the financial burden borne by local users.

That long distance rates between urban areas will decline as a result of competition.

That long distance rates between rural areas are likely to rise sharply unless long-distance toll rate averaging is maintained or until competition enters these rural markets.

#### *FCC justifications for access fees and other changes*

That while some of the local rate increases are due to the divestiture of AT&T, most are due to FCC regulatory actions.

That, at present, the level of "bypass" is minimal relative to the growth of telephone company revenues.

That the potential for bypass, however, appears to be serious and that the major causes are service quality, technological needs of the customers, and price.

That the telephone companies themselves can preclude a considerable amount of bypass by addressing service quality and technological needs of their customers.

That alternatives exist to the FCC's access charge plan which appear to be more reasonable.

That many economists specializing in communications believe the access charge decision may not produce either an economically efficient or an equitable outcome.

That much controversy continues over local nontraffic sensitive, or fixed costs; including, what they are, who causes them, and who should pay for them.

*The impact of rising local rates on small businesses*

That the FCC has neither studied nor initiated a study of the economic impact of rising local rates on small businesses.

That the FCC's issuing of a press release—Public Notice 5346 asking for comments on the effects of access fees and other local rate increases on small businesses 1½ years after the access fee decision was made—is woefully inadequate and is no substitute for a serious, comprehensive study.

That the telephone industry, to date, has also failed to provide comprehensive data concerning the impact of rapidly rising local rates on small business.

*Local measured service (LMS)*

That testimony presented to the Task Force indicates that local telephone companies and regulators have not proven that LMS is economically efficient or equitable or that it will not cause small businesses economic harm.

That these telephone companies and regulators also have not disproven contentions by experts that LMS may increase the total costs of the telephone system and that small businesses will bear a disproportionately large share of these higher costs.

That most small businesses appear to oppose the LMS concept of charging for local telephone service in the same manner as for long distance.

### SPECIAL CONCERNS

That excessive paperwork requirements place an undue burden on small rural telephone companies.

That telephone bills issued to small businesses and other telephone customers often are overly complex and confusing.

That the provision of a Universal Telephone System is essential to the economic and social well-being of the Nation.

### RECOMMENDATIONS

The Committee recommends the following actions:

(1) That the FCC remove the access charge on small businesses (as defined for this purpose by the U.S. Small Business Administration with Committee oversight) until such time as it

presents Congress with a comprehensive analysis of the impact on small businesses of the access charge plan and an adequate justification for the plan;

(2) In addition, although the Task Force jursidiction is limited to small business, the Task Force believes that the FCC should furnish Congress with a thorough analysis demonstrating that the imposition of access charges on any group is in the public interest;

(3) That if the FCC cannot adequately justify the access charge plan as currently constituted or come up with an acceptable revision, that it present Congress with a reasonable alternative that will: (a) reduce incentives for uneconomic "bypass," and (b) provide for a fair allocation of jointly caused local network costs;

(4) That as part of the analysis of the access charge and possible alternatives requested by this Task Force, the FCC examine and calculate the nontraffic sensitive costs and the actual cost of local telephone service and use this information in reaching its decision;

(5) That the FCC study the effects of the access charge and other recent regulatory decisions on small businesses, including small rural telephone companies, something the commission has failed to do so far;

(6) That in the future, such studies be conducted by the FCC and duly considered before regulatory changes are implemented;

(7) That current plans to vastly expand local measured service (LMS) be halted until a comprehensive cost-benefit analysis of LMS is completed;

(8) That the FCC work with the telephone industry and the States to develop a strong Universal Service Fund for high-cost rural areas;

(9) That the FCC make special provisions when necessary so that the revenues of small rural telephone companies are not endangered by regulatory changes;

(10) That long-distance toll rate "deaveraging" in rural areas be prevented until such time as meaningful competition exists in those markets;

(11) That the FCC seek out ways tor elieve the unjustified paperwork burden on small rural telephone companies through such steps as application of the Regulatory Flexibility Analysis, which applies to other small business;

(12) That long-distance and local telephone companies work with business organizations and regulators to develop a simplified "model" telephone bill;

(13) That these telephone companies also provide to small businesses on request an annual telephone statement that simply and specifically lists all the service for which small businesses are charged;

(14) That the FCC exercise caution in assigning additional costs to the remaining monopoly elements of the telephone network, including local network and rural long-distance subscribers;

(15) That the FCC report back to the Committee concerning its responses to the Committee's recommendations and requests by April 1, 1985.

# APPENDIXES

## APPENDIX I.—RECENT RATE INCREASE REQUESTS BY STATE

Here are rates for city residents in each State and how much they'll rise if pending rate hike requests are approved. Business rates are generally higher. The average increase is approximately 24 percent. It does not include the business long-distance access charge of up to $6 per month nor the residential long-distance access charge of up to $2 per month by 1986.

FLAT RATE

| State | Old/currrent | New/proposed |
|---|---|---|
| Alabama | $18.05 | $21.05 |
| Alaska | 12.25 | none |
| Arizona | 9.21 | 11.05 |
| Arkansas | 14.00 | 21.00 |
| California | 7.00 | 8.25 |
| Colorado | 7.82 | 7.28 |
| Connecticut | 10.05 | 12.40 |
| Delaware | 11.17 | 12.15 |
| District of Columbia | 12.49 | 28.82 |
| Florida | 12.20 | 13.70 |
| Georgia | 14.90 | 15.90 |
| Hawaii | 11.40 | 21.00 |
| Idaho (east) | 9.40 | 11.91 |
| Idaho (west) | 5.65 | 8.50 |
| Illinois | 31.84 | 33.75 |
| Indiana | 13.83 | 15.14 |
| Iowa | 11.15 | 14.95 |
| Kansas | 11.65 | 13.00 |
| Kentucky | 17.65 | 17.99 |
| Louisiana | 12.43 | 14.42 |
| Maine | 10.49 | 11.77 |
| Maryland | 16.49 | 20.65 |
| Massachusetts | 12.10 | 11.90 |
| Michigan | [1] 10.65 | 11.86 |
| Minnesota | 13.65 | 15.20 |
| Mississippi | 19.01 | none |
| Missouri | 9.55 | 11.60 |
| Montana | 8.37 | 12.38 |
| Nebraska | 10.63 | 14.63 |
| New Jersey | 7.75 | 12.35 |
| New Hampshire | 13.72 | 18.52 |
| New Mexico | 10.70 | 16.39 |
| New York | 15.65 | 17.78 |
| Nevada | 9.20 | 15.70 |
| North Carolina | 14.95 | 16.73 |
| North Dakota | 11.35 | 12.50 |
| Ohio | 12.95 | 14.95 |
| Oklahoma | 6.55 | 8.95 |
| Oregon | 13.30 | 15.88 |
| Pennsylvania | 9.46 | 12.28 |

## FLAT RATE—Continued

| State | Old/currrent | New/proposed |
|---|---|---|
| Rhode Island | 15.80 | 20.54 |
| South Carolina | 16.20 | 19.30 |
| South Dakota | 13.50 | 14.15 |
| Tennessee | 13.15 | 16.30 |
| Texas | 10.75 | 11.05 |
| Utah | 16.44 | 20.37 |
| Vermont | 11.00 | 13.70 |
| Virginia | 12.55 | 15.98 |
| Washington | [1] 12.50 | 12.89 |
| West Virginia | 17.77 | 20.39 |
| Wisconsin | 13.00 | 17.50 |
| Wyoming | 9.11 | 14.54 |

[1] Old rate excludes a temporary surcharge for each local call.

Source: Local Bell and GTE operating companies, USA Today.

# APPENDIX II.—DEFINITIONS OF SELECTED TELECOMMUNICATIONS TERMS

(Prepared by the Congressional Research Service, the Library of Congress; Jane Bortnick, Specialist in Information Science and Technology, Science Policy Research Division; Angele Gilroy, Specialist in Industrial Organization; and David Siddall, Legislative Attorney, American Law Division)

## ABSTRACT

The following glossary provides short definitions and descriptions of selected telecommunications terminology, agencies, and organizations, as well as a listing of key laws and Federal Communications Commission regulations and decisions.

## PREFACE

This glossary has been prepared to assist the lay person to obtain a working knowledge in the telecommunications field. It is not an exhaustive listing of telecommunications terminology, but rather is intended as an aid to provide a short definition of the more common economic, technical, and regulatory terms found in the broadcast, cable, and telecommunications common carrier fields. A listing of key laws and Federal Communication Commission regulations and decisions as well as selected agencies and organizations active in telecommunications is also included.

Jane Bortnick, Specialist in Information Science and Technology, Science Policy Research Division; Angele Gilroy, Specialist in Industrial Organization, Economics Division; and David Siddell, Legislative Attorney, American Law Division; were responsible for the selection and definition of these terms. Mark Jickling, Research Assistant, Economics Division; and David Anapolle, Student Intern, Science Policy Research Division; provided invaluable assistance.

A wide variety of telecommunications dictionaries, glossaries, and textbooks were used as reference aids in the compilation of these definitions.

## I. DEFINITIONS

### A

*Access Charge.*—A charge to cover local exchange costs directly associated with the origination and termination of interexchange services. For example, these costs could be recovered through a fee to be levied directly on subscribers (see *customer access line charge) and/or on *interexchange carriers. (See Access Charge Decision in Section II.)

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* An asterisk preceeding a term indicates that the term is defined elsewhere in the glossary.

*Allocation (of the *radio frequency spectrum).*—The designation of particular parts of the *radio frequency spectrum for specific types of service or services For example, 535 to 1605 kilohertz (see *hertz) is allocated to the broadcasting service where it is used for *amplitude modulation (AM) radio.

*Allotments.*—The table of allotments shows which *FM and TV broadcasting channels can be used in each city.

*Amplitude Modulation (AM) Radio.*—Audio transmission utilizing *frequencies from 535 to 1605 kilohertz. (See *hertz.)

*American Telephone and Telegraph 1956 Consent Decree.*—A judicial settlement ending the Federal Government's 1949 antitrust suit against AT&T and Western Electric. Among the provisions was a restriction that the *Bell System engage only in the manufacture of equipment and the provision of services related to regulated *common carrier telecommunications services and those services incidental to the provision of such services.

*American Telephone and Telegraph 1982 Consent Decree.*—(Also called modification of final judgment—MFJ) a judicial settlement ending the Federal Government's 1974 antitrust suit against AT&T, Bell Labs, and Western Electric. Among the provisions agreed to were the divestiture of the local *exchange service and access functions of the 22 *Bell operating companies as well as the modification of the *AT&T 1956 Consent Decree so that the remaining *Bell System may enter into unregulated markets (e.g. *data processing). (See section II.)

*Analog Data.*—Information represented in the form of continuously variable elements. The normal mode of transmitting telephone or voice signals has been analog, although increasingly digital encoding is taking place.

*Ascertainment.*—The *Federal Communications Commission policy which requires broadcast stations to determine the needs of communities served and provide programming to address those needs.

*Assignment (of a radio frequency).*—The authorization or licensing of a particular station to use a specific frequency (or channel) under specified conditions.

*Attenuation.*—The loss in signal power between transmission and reception points.

*Automatic Data Processing (ADP).*—The processing of information by computers.

## B

*Bandwidth.*—The *frequency width used by a communication's *signal. Bandwidths are specified in *hertz.

*Basic Cable Services.*—The package of *cable television programming made available to all subscribers for the minimum monthly fee. (See *pay cable.)

*Basic Telecommunication Service.*—The *Federal Communications Commission definition of *common carrier transmission services which result only in the movement of information and do not involve the manipulation, restructuring, or storing of such information. (See *enhanced telecommunications services.)

*Bell Operating Companies (BOC's).*—The predivestiture 22 wholly-owned telephone companies which were part of the *Bell System providing local and intrastate telephone service. Under the terms of the *American Telephone and Telegraph 1982 Consent Decree these 22 companies and their *exchange service and *exchange access functions were divested from the *Bell System and reorganized into 7 regional holding companies (Ameritech, Bell Atlantic, Bell South, NYNEX, Pacific Telesis, Southwestern Bell Corp., and U.S. West.) The seven regional holding companies each own a one-seventh interest in a Central Services Organization (CSO). The organizations' major functions are the furnishing of technical assistance and serving as a central contact point for national security, emergency preparedness, and natural disasters. The divestitute took place January 1, 1984.

*Bell System.*—The predivestiture structural organization of American Telephone and Telegraph Company and its subsidiaries. The *AT&T 1982 Consent Decree called for divestiture of the exchange service and access functions, the yellow page directory, and the *cellular mobile radio parts of the Bell System.

*Bit.*—A unit of information. The work itself is a contraction of the words binary digit. Information in digital computers is represented in binary form (0, 1). A bit refers to each binary sequence.

*Broadcasting Satellite Service (BSS).*—A radiocommunications service in which *signals transmitted or retransmitted by space stations are intended for direct reception by the general public. This service may include sound transmissions and television transmission, and in the United States generally refers to *direct broadcast satellite service.

*Broadcasts.*—Over-the-air transmissions conveying programs intended to be received by the general public (in contrast to transmissions intended only for specific addresses, such as point-to-point *common carrier transmissions).

*Bundled Rates.*—Rates in which the various rate elements which comprise the service are consolidated thereby making them indistinguishable. (See *unbundled rates.)

*Byte.*—A unit of computer memory typically consisting of eight *bits and equalling enough information to describe one letter, number, or character.

## C

*Cablecasts.*—Transmissions conveying programs intended to be received only by cable subscribers and which are contained solely within the cable (in contrast to over-the-air *broadcasts).

*Cable Fees.*—A yearly charge paid by the *cable franchise operator to the local government which represents the franchised area of operation. The amount is usually a percentage of the *cable television operator's yearly gross revenues and is agreed upon by the cable operator and the local community, but subject to standards established by the *Federal Communications Commission, 47 C.F.R. § 76.31.

*Cable Franchise.*—An agreement by which a local government unit contracts with a *cable television company for the right to provide cable services to the community.

*Cable Penetration.*—The number of homes in an area which have opted to be equipped to receive *cable television as a percentage of all households with television.

*Cable Pole Attachment.*—The attachment of, or the laying of *coaxial cable to utility poles or rights-of-way owned or controlled by utility companies to enable the provision of *cable television service. The cable television company pays a charge for this access, and in the absence of State regulation, the *Federal Communications Commission regulates pole attachment rates, terms and conditions, 47 U.S.C. § 224.

*Cable Rates.*—Payments made by cable television subscribers to the cable company for the provision of *cable television service.

*Cable Superstation.*—A television broadcast station whose *signal is retransmitted to *cable television systems via *satellite.

*Cable Television.*—A system that delivers multiple channels of video programming to subscribers through a *coaxial cable. Cable providers are locally franchised, but are also regulated on the Federal level and may be regulated on the State level as well.

*Candidate Access Statute.*—See section II.

*Carrier's Carrier.*—In *telecommunications, a provider of telecommunications services to other carriers, who then provide services to customers.

*Cathode Ray Tube (CRT).*—An electron-beam tube such as the picture tube in a television receiver.

*C-Band.*—The name for the 4-6 GHz (see *hertz) frequency bands that are used for *satellite communications and are shared with common carrier terrestrial microwave systems.

*Cellular Mobile Radio.*—A form of portable telephone service which allows mobile radio telephones to both initiate and receive calls with private line quality. A metropolitan area is divided into "cells" each served by a low power radio.

*Centrex Central Office Service (Centrex Co.).*—A state tariffed telephone service principally offered to large users (e.g. Government agencies and large organizations) which provides services similar to those of a *private automatic branch exchange (e.g. intercom, and conference calling), but which requires a separate loop from the central office switch to each of the subscriber's stations.

*Circuit.*—A two-way communications path.

*Coaxial Cable.*—A cable composed of an inner wire conductor surrounded by a hollow cylindrical conductor with layers of insulation between them. *Signals travel between the inner wire and the outer cylinder and do not radiate outside the cable.

*Common Carrier (Communications).*—In *telecommunications, a supplier that provides communications services for hire to the public, subject to State and *Federal Communications Commission regulation.

*Common Control Switching Arrangement (CCSA).*—A service offered by *established common carriers which provides subscribers with an intercity *private line switching network. CCSA service is provided for the exclusive use of the customer and its authorizated users.

*Communications Satellite.*—A relay station that receives video, audio, data and other transmissions from *uplinks and retransmits them to *downlinks.

*Community Antenna Television (CATV).*—The original name for *cable television when service consisted primarily of transmitting over-the-air *broadcast signals in areas of poor reception.

*Comparative Renewal.*—The process by which the *Federal Communications Commission considers the qualifications of an applicant wishing to renew a broadcast license relative to the qualifications of competing applicants.

*Computer Hardware.*—The mechanical, magnetic, electrical and electronic devices or components of a computer.

*Computer Software.*—The sequence of instructions needed to guide the operations of a computer.

*Cross Subsidization.*—The use of revenues or facilities of one product or service to allay the costs of another product or service.

*Customer Access Line Charge (CALC).*—A *FCC proposed charge to be levied on all telephone subscribers to cover certain interstate *non-traffic sensitive costs previously not included in local service rates incurred by the local *established carrier for connecting a subscriber to the local central office. (See Access Charge Decision in Section II.)

*Customer Premises Equipment (CPE).*—Equipment located on a customer's premises which is connected to telephone company facilities to terminate or adapt that facility for customer use (e.g. a word processor or telephone receiver).

## D

*Data Processing.*—Mechanical or electrical handling of data; sorting, collating, performing mathematical steps, storing, erasing, or printing.

*Decoder.*—A device used to unscramble purposely scrambled television signals so that a proper picture is displayed on a television set.

*Digital Data.*—Information represented by a code consisting of a sequence of discrete elements.

*Digital Termination System (DTS).*—A *microwave local distribution system providing two-way transmission of high speed *digital *electronic message systems.

*Direct Broadcast Satellite (DBS).*—A high power *satellite in the *broadcasting satellite service which transmits programming directly to community receivers or to individual home receivers thereby eliminating the need to relay the program over cable or broadcast stations.

*Distant Signal.*—A broadcast *signal generally originating too far away to be directly received over-the-air in the community of concern. Cable companies may relay such a signal into their service area for carriage on one of their cable channels.

*Distant Signal Rule.*—See section II.

*Division of Revenues.*—The predivestiture process by which revenues from interstate telephone service are shared among the *Bell System Companies involved in the provision of that service. (See *settlements.)

*Domestic Satellite Carrier.*—A carrier which provides intercity communications services within the United States via a domestic *communications satellite.

*Domsat.*—A domestic U.S. *communications satellite

*Downlink.*—A unidirectional transmission path from a *communications satellite to an *Earth station. (Opposite of *uplink.)

## E

*Earth Station.*—An antenna, often saucer shaped, electronically equipped either to receive *signals from *satellites, to transmit signals back, or to do both. Television Receiver Only (TVRO) satellite dishes, which only receive signals, are used commonly by cable companies, and increasingly by individual homeowners.

*Electronic Message System (EMS).*—Also referred to as electronic message service, any computer-based message system, such as electronic mail or electronic funds transfer.

*Enhanced Telecommunication Services.*—The *Federal Communications Commission definition of *common carrier transmission services which involve the manipulation, or alteration of *basic telecommunications service offerings (e.g., *data processing services).

*Equal Time.*—See section II.

*Equipment Registration Program.*—A *Federal Communications Commission (FCC) program initiated in 1977 which permits the connection of any supplier's terminal equipment directly to the *telecommunications network once it has been registered and meets FCC technical standards, set out at 47 C.F.R. § 68.

*Established Carriers.*—The *common carrier firms which provide the Nation's *telecommunications transmission services under regulation, AT&T Communications the *Bell Operating Companies, and the *Independent telephone companies.

*Exchange Access.*—The connection of *interexchange carriers to the *exchange carriers' local *telecommunications network.

*Exchange Carrier.*—A provider of *telecommunications *exchange service.

*Exchange Network Facilities for Interstate Access (ENFIA) Agreements.*—*Federal Communications Commission approved contractually negotiated agreements between the *established carriers and *other common carriers (e.g., MCI) in which the other common carrier agrees to pay an approved *access charge to the established carrier to obtain access to the local network for the provision of end-to-end service.

*Exchange Service.*—Telephone service within a geographic area established by a regulated body which provides customers with the ability to originate calls within that local area, receive incoming calls, and obtain access to the *message toll network. Under the *AT&T 1982 Consent Decree service provided by a divested *Bell operating company which remains within a *local access and transport area.

## F

*Facsimile.*—A system that transmits original documents, including graphic representations, electronically to distant locations using a *telecommunications network. The document is scanned at the transmitter, reconstructed at the receiving station, and duplicated on some form of paper. *Digital facsimile machines are faster than their *analog counterparts.

*Fairness Doctrine.*—See section II.

*Fiber Optics.*—The technology for transmitting light in thin glass fibers. It can be used to carry relatively large amounts of information long distances.

*Financial Interest Rule.*—See section II.

*Fixed Satellite Service (FSS).*—A radiocommunication service between fixed *Earth stations at specified points when one or more *satellites are used; generally refers to *communications satellite service.

*Footprint.*—The area on the Earth's surface upon which a particular *satellite's signal can be received.

*Foreign Exchange Service (FX).*—A type of telephone service whereby a subscriber for a fee can receive *exchange type service in an exchange other than the one in which that subscriber is located.

*Frequency.*—A measure of the number of electromagnetic waves that pass a given point in a given time period. Frequency is equal to the speed of light divided by wavelength and is expressed in cycles per second or *hertz. A short wave-length is equivalent to a high frequency.

*Frequency Allocation Table (National).*—A table developed jointly by the *Federal Communications Commission and the *National Telecommunications and Information Administration which sets forth the division of *frequencies in the usable portion of the *radio frequency spectrum among domestic radiocommunication services.

*Frequency Modulation (FM) Radio.*—Audio transmission using *frequencies from 88 to 108 megahertz. (See *hertz.)

## G

*Geostationary Orbit.*—An orbital path in the plane of the Earth's equator. A *satellite in geostationary orbit therefore remains fixed relative to the Earth.

*Geosynchronous Orbit.*—An orbital path at an altitude of 22,300 miles above the Earth's equator. A *satellite in geosynchronous orbit completes one revolution of the Earth at precisely the same rate as the Earth makes one revolution on its axis, thereby staying essential at the same point relative to any point on the Earth at all times.

## H

*Hertz.*—A measurement of *frequency equal to one cycle per second. One kilohertz is 1,000 hertz; one megahertz is one million hertz; one gigahertz is one billion hertz.

*High Definition Television (HDTV).*—A television system that utilizes significantly increased numbers of scanning lines on a screen compared to conventional television transmission methods. HDTV provides improved color fidelity and resolution as well as stereophonic sound.

## I

*Independent Telephone Company.*—A firm which is not affiliated with AT&T or the *Bell Operating Companies but is the designated *established carrier for the provision of *telecommunications *common carrier service in a specific geographic area. There are approximately 1,500 such companies in the United States which provide 20 percent of the Nation's telephone service.

*Independent Television Station.*—A commercial television station which is not affiliated with one of the three major television networks (ABC, CBS, or NBC).

*Instructional Television Fixed Service (ITFS).*—A television *microwave system set aside for educational use, which enables the transmission of instructional programming. These channels are reserved for non-profit educational purposes.

*Integrated Circuit.*—A single piece of silicon on which any number of *transistors are directly etched along with the connections between them. This allows for whole sections of a computer, such as logic or memory components, to be contained within one chip.

*Integrated Services Digital Network (ISDN).*—A concept for a general purpose network in which a wide range of telecommunications services can be conveyed using common digital connections.

*Interactive Cable System.*—A *cable television system capable of transmitting *signals in both directions, thereby allowing viewer response or participation.

*Interexchange Carrier.*—A provider of *telecommunications *interexchange service.

*Interexchange Service.*—Telephone service between a point or points located in one exchange area and a point or points located in another or multiple exchange areas. Under the *AT&T 1982 Consent Decree service provided between *local access and transport areas or service between a local access and transport area and point outside that local access and transport area. (See *exchange service.)

*International Record Carrier (IRC).*—A carrier which formerly provided only international *telecommunications services other than voice communications (e.g., data, telex and facsimile). The *Federal Communications Commission however, in 1983 ended restrictions limiting the IRC's to provision of record services and allowed them to offer voice communications as well. This decision (the *Overseas Communications Services decision), also removed the limitation on AT&T to provide only voice transmission, enabling them to offer data services also.

## K

*Ka-Band.*—The name for the 20–30 GHz (see *hertz) frequency bands. These bands are currently being used on an experimental basis.

*Kilobyte.*—One thousand *bytes of computer memory commonly abbreviated K. Thus, 64K describes a computer with 64 thousand *bytes (or 64 kilobytes) of memory.

*Kingsbury Commitment.*—The December 1913 agreement between AT&T and the U.S. Department of Justice, witnessed by a letter from AT&T's Vice President Kingsbury (rather than a formal consent decree) by which the company agreed to: (1) dispose of its Western Union telegraph stock, (2) permit interconnection with independent telephone companies, and (3) refrain from actively acquiring more directly competing telephone companies. This agreement is generally credited with having prevented a Federal antitrust suit against AT&T's control of the telephone system.

*Ku-Band.*—The name for the 12–14 GHz (*see hertz) frequency bands. Proposed *direct broadcast satellite services will operate in these bands.

## L

*Laser.*—A tightly packed, narrow beam of light formed by the emission of high energy molecules. Acronym for *l*ight *a*mplification by *s*timulated *e*mission of *r*adiation.

*Local Access and Transport Areas (LATA's).*—Geographic regions which represent the post-divestiture service areas of the 22 *Bell operating companies. All telephone service within a LATA is defined as *exchange service, while service between LATA's is defined as *interexchange service.

*Local Bypass.*—Refers to the use of an alternative telecommunications system to that of the local *established carrier's to gain direct access to customers inside a local exchange area.

*Local Loop.*—A *circuit connecting equipment to a switching facility or distribution point.

*Low-Power Television (LPTV).*—A television broadcasting service in which stations televise programs with less power than traditional stations. It is designed to reach a small geographic area, having a typical station coverage area of 12 to 15 miles. (See section II also.)

## M

*Master Antenna Television (MATV).*—A system consisting of a television antenna and wiring which is shared by multiple television receivers for the purpose of clearly receiving broadcast signals. Such systems typically service an apartment building or complex.

*Measured Local Service.*—A method of pricing local telephone service based on the number, the duration, the time of day, and the distance of calls within the local exchange area instead of by a flat all inclusive rate.

*Message Switching.*—The technique of receiving a message, storing it until the proper outgoing line is available, and then transmitting it.

*Message Toll Service (MTS).*—A non-*private line intrastate and interstate long distance telephone service which permits local subscribers to establish two-way service on a message-by-message basis.

*Microcomputer.*—Usually a 8 or 16-*bit computer which can be used on a stand-alone basis or as an intelligent terminal; contains at least one *microprocessor plus other supporting circuitry.

*Microprocessor.*—An *integrated circuit chip which contains the electronics of a central processor unit.

*Microwave.*—A short electromagnetic wave in the *radio-frequency spectrum at 1,000 megahertz or greater. Any form of *signals can be transmitted at these *frequencies between two line-of-sight points.

*Migration Strategy.*—A marketing policy which encourages customers to replace their presently installed equipment with upgraded alternative (e.g., the purchase of electronic switching equipment to replace older, less versatile electro-mechanical equipment).

*Minicomputer.*—Usually a 32-*bit computer typically used for dedicated applications and distributed *data processing.

*Multichannel Multipoint Distributing Service (MMDS).*—A *multipoint distribution service in which each service provider can offer up to four channels.

*Multiple System Operator (MSO).*—The owner of more than one *cable television system.

*Multiplexing.*—The division of the transmission *Bandwidth for use by two or more *signals, either by splitting the frequency band transmitted by the common channel into narrower bands, each of which is used to constitute a distinct channel (frequency-division multiplex), or by allotting the common channel to several different signals, one at a time (time-division multiplexing).

*Multipoint Distribution Service (MDS).*—Over-the-air, line-of-sight transmission of information such as video programs by *microwave to subscribers with specially equipped receivers.

*Must Carry Rule.*—See section II.

## N

*Narrowcasting.*—Programming targeted to appeal to specific demographic or special interest audiences, as opposed to mass audiences.

*Natural Monopoly.*—A marketing situation in which it is considered to be more efficient and economical for a product or service to be provided by a single firm under regulation, than by two or more competing firms. The provision of telephone services was originally considered to be a natural monopoly market situation.

*Network Affiliated Television Station.*—A commercial television station which is affiliated with one of the three major television networks (ABC, CBS, or NBC), and while not required, broadcasts programming and commercials provided by the network.

*Network Owned and Operated Television Station (O&O).*—A commercial television station which is totally owned and operated by one of the three national television networks (ABC, NBC, or CBS). Each television network presently owns five *VHF stations, the maximum number of VHF stations allowed. (See *Seven-Seven-Seven Rule.)

*Network Syndication Rule.*—See section II.

*Non-Traffic Sensitive Costs (NTS).*—Costs which do not vary with usage. In the provision of telephone service, facilities such as the *local loop, inside wiring and *customer premises equipment are considered to be non-traffic sensitive. (Opposite of *traffic sensitive costs.)

## O

*One-to-a-Market Rule.*—See section II.

*Off-Network Programming.*—Television programming which has previously appeared on network stations and is now available for *syndication.

*Other Common Carrier (OCC).*—Any carrier authorized by the *Federal Communications Commission to provide *telecommunications services in competition with the *established carriers (e.g., *domestic satellite carriers and *specialized common carriers).

## P

*Packet Switching.*—A data communications switching and transmission system whereby an input data stream is broken into uniform "packets" to which is appended addressing information, sequence counts, and error controls. Each packet is transmitted independently through the network so as to maximize the utilization of transmission facilities, and at the receiving end the individual packets are resequenced and combined as necessary into the output data stream.

*Paycable.*—Cable programming, not part of the *basic cable package, available to *cable television subscribers for an additional monthly charge.

*Pay-Per-View-Television.*—A *pay television service for which subscribers pay on a per-program basis; that is, the subscriber selects the desired programs and pays on a pay-as-you-watch basis rather than on a monthly subscription basis.

*Pay Television.*—Television service which is supported by direct payment by the viewers, versus commercial (advertiser supported) television or *public television. Included in the pay television category are *multipoint distribution service, *paycable, *satellite master antenna television and *subscription television.

*Personal Attack Rule.*—See section II.

*Petition To Deny.*—A petition filed by an interested person with the *Federal Communications Commission requesting that an application before the Commission not be granted. Section 309(d) of the Communications Act of 1934, as amended, 47 U.S.C. § 309(d).

*Postal, Telephone and Telegraph (PTT) Authority.*—The term generally used to describe foreign telecommunications administrations. PTT's are often both the regulators and providers of most *telecommunications services and represent their governments in negotiations with foreign carriers and international telecommunications organizations.

*Prime Time Access Rule.*—See section II.

*Private Automatic Branch Exchange (PBX).*—A private automatic telephone exchange that provides for the transmission of calls to and from the public telephone network. Some PBX's now contain *microprocessors which make possible such services as direct-access inward dialing, automatic least-cost routing, speed calling, conference calling, and automatic ringing.

*Private Line Service (PLS).*—A *telecommunications service used by high volume or special needs customers which offers a link between specific points solely for that customer's private use during specific time periods.

*Public Radio.*—Noncommercial radio programming broadcast by stations which are supported by government funding, corporate and private donations, and other revenue sources.

*Public Television.*—Noncommercial television programming broadcast by stations which are supported by Government funding, corporate and private donations, and other revenue sources.

## R

*Radio Frequency Spectrum.*—Those *frequencies between the audio and visual ranges of the spectrum in which electromagnetic impulses can be radiated through space. This range is utilized for services such as two-way communications, radar, Earth resources sensing, and radio and television broadcasting.

*Resale Carrier.*—A carrier which leases *circuits from a *telecommunications *common carrier and resells them to individual users for a profit.

## S

*Satellite, Artificial Earth.*—A manmade object which circles the Earth. A number of different types of artificial statellites are in operation today, including *telecommunications, broadcasting, weather, geodetic, navigation, reconnaissance, sensing, scientific, and manned satellites.

*Satellite Master Antenna Television (SMATV).*—Television systems that operate the same as *cable television systems, but are operated only on private property such as within apartment buildings and multi-unit condominiums. SMATV operators contract with property owners to supply television programming via satellite to homes on the property, as opposed to procuring franchises from local governments to use the public ways to supply such service to separate private homes.

*Satellite System.*—A space system using one or more artificial Earth *satellites.

*Semiconductor.*—A solid with an electrical conductivity that lies between the high conductivity of metals and the low conductivity of insulator. Semiconductors circuit elements include crystal diodes, *transistors, and *integrated circuits.

*Separations.*—The process by which telephone industry costs are allocated between interstate operations, subject to *Federal Communications Commission jurisdiction, and intrastate operations, subject to State regulatory authority.

*Settlements.*—The predivestiture process by which revenues derived from the provision of joint interstate and intrastate service were allocated between the *Bell System and the *Independent telephone companies (See *division of revenues.)

*Seven Station Rule.*—See section II.

*Shared User.*—One of several users who in a non-profit arrangement, collectively subscribe to a *private line service of an *established carrier and in turn share the costs of obtaining that service.

*Signal.*—Electromagnetic energy used to convey information.

*Specialized Common Carrier (SCC).*—A carrier which provides intercity *private line service in competition with the established carriers.

*Spectrum Fee.*—A charge proposed to be levied upon users of the *radio frequency spectrum, either in proportion to the *frequency space occupied or a percentage of profits realized. Proposals for use of such a "fee" or "tax" are generally viewed as methods for reimbursing the Government for associated regulatory costs and/or, for funding public broadcasting.

*Subscriber Line Usage (SLU).*—A ratio reflecting minutes of use of local exchange telephone plant for interstate calls compared to the total minutes of use of the same equipment. SLU is used to develop the ratio of interstate usage to other (intrastate toll and local) usage of local telephone plant. The ratio developed based on SLU is a component of the *subscriber plant factor.

*Subscriber Plant Factor (SPF).*—The allocator traditionally used to assign non-traffic sensitive plant costs to the interstate jurisdiction. In most cases SPF is computed separately for each study area (i.e., the area served by a particular telephone company in a particular State.)

*Subscription Television (STV).*—Video broadcasting service available on conventional, over-the-air *very high frequency or *ultra High frequency television channels with signals scrambled so that programs may be received only be subscribers with special decoding receivers.

*Syndicated Program Exclusivity Rule.*—See section II.

*Syndication.*—The sale of exhibition rights of programming.

## T

*Tariff.*—A statement filed by a telecommunications *common carrier with the appropriate public regulatory agency which describes the service it offers and lists a schedule of charges for the use of that regulated *telecommunications service.

*Telecommunications.*—The transmission of *signals of any kind by wire, radio, optical, or any other systems.

*Teletex.*—A new world standard teletypewriter service which is faster and more flexible than *telex.

*Teletext.*—A one-way information system in which textual and graphic material is generally conveyed as part of the television broadcast signal or over cable.

*Telex.*—The service which uses teletypewriters to send and receive information over a communications network. The word is an abbreviation of *tel*egraph *ex*change.

*Terminal Equipment.*—Equipment capable of sending and/or receiving information over a *telecommunications channel and converting that channel for mechanical or human end use (e.g., switchboards, computers).

*Traffic Sensitive Costs.*—Costs which vary according to usage. In the provision of telephone service, an example is the use of certain switches which varies depending upon traffic levels. (Opposite of *non-traffic sensitive costs.)

*Transborder Data Flows.*—The term generally refers the *transmission of data across national boundaries for procesing and storage in foreign computers.

*Transistor.*—A sandwich of semiconducting materials in which crystals are arranged to act as switches controlling the flow of currents throughout. Currently silicon crystals are the most common materials used.

*Transmission.*—Communications by means of electronic signal.

*Transponder.*—The satellite component that receives the *uplink signal, shifts it in frequency, and retransmits it back to Earth via the *downlink.

## U

*Ultra High Frequency (UHF).*—Any of the frequencies in the band between 300 and 3,000 megahertz. (see *hertz.) Television broadcasts on channels 14–83 use ultra high frequencies.

*Unbundled Rates.*—Rates in which the various rate elements which comprise the service are separately stated, thereby enabling the identification of the charge for each component of the service. (See *bundled rates.)

*Uniform System of Accounts.*—A Federal Communications Commission prescribed accounting system encompassing both balance sheet and income statements accounts, used to review the operations of *telecommunications *common carriers under its jurisdiction.

*Uplink.*—A unidirectional transmission path from an *Earth station to a *communications satellite. (Opposite of *downlink.)

## V

*Value Added Carrier.*—A carrier which leases *circuits from *telecommunications *common carriers and then adds special services, such as computer oriented services, before retailing the use of the circuits to a final user.

*Very High Frequency (VHF).*—Any of the "frequencies in the band between 30 and 300 megahertz. (See hertz.) Television broadcasts on channels 2–13 use very high frequencies.

*Very Large Scale Integration (VLSI).*—The process of imprinting more than 5,000 logic *circuits or more than 16,000 memory bits on a single chip.

*Videodisk.*—A disk the size of a record album which stores large amounts of data, audio and video information in digital form.

*Videotex.*—A generic term referring to computer-based information retrieval systems which display text and graphics on a video screen. Videotex encompasses the concept of *teletext (one-way retrieval system), and *videotext (two-way or interactive retrieval systems).

*Videotext.*—A two-way computer-based information system in which the user is linked to the database by telephone line or cable. The system is interactive and users may send messages or perform transactions in addition to retrieving information.

## W

*Wide Area Telephone Service (WATS).*—A telephone service which allows a subscriber to make calls to specific geographic areas for a rate based on volume and time-of-day but generally less than that charged for *message toll service. Customers may also purchase "800" service which permits the subscriber to receive calls placed from specific areas with no charge to the caller.

## II. KEY TELECOMMUNICATIONS LAWS AND FEDERAL COMMUNICATIONS COMMISSION DECISIONS AND REGULATIONS

*Above 890 Decision.*—The *Federal Communications Commission decision concerning domestic allocation of *frequencies in the spectrum above 890 Megahertz, which is generally referred to as *microwave. The decision is most often cited for its conclusion that private point-to-point operations would be allowed frequencies in this spectrum, thereby creating alternatives to the *telecommunications *common carrier services then available and providing the basis necessary for competition in long distance telephone service. *Allocation of Microwave Frequencies Above 890 Mc.,* Report & Order, 27 F.C.C. 359 (1959), *reconsidered,* 29 F.C.C. 825 (1960).

*Access Charge Decision.*—*Federal Communications Commission decision on the computation and assessment of subscriber and *carrier's carrier charges to cover local exchange costs associated with the origination and termination of interchange services. *MTS and WATS Market Structure,"* Third report and Order, 48 Fed. Reg. 10319 (published March 11, 1983), *reconsideration,* 48 Fed. Reg. 42984 (published Sept. 21, 1983). Petitions for further reconsideration are pending before the FCC, and the final decision also has been appealed. *National Association of Regulatory Utility Commissioners* v. *F.C.C.,* D.C. Circuit Court of Appeals Docket No. 83-1225.

*American Telephone and Telegraph 1982 Consent Decree.*—The judicially-accepted modified final judgment antitrust Consent Decree requiring AT&T divestuture, *see United States* v. *American Telephone & Telegraph Co.,* 552 F. Supp. 131 (D.C.D.C. 1982), *affirmed,* 103 S. Ct. 1240 (1983). The court also reviewed and accepted the AT&T Reorganization Plan, *see United States* v. *Western Electric Co.,* 569 F. Supp. 990 and 1057 (D.C.D.C. 1983), *affirmed,* 52 USLW 3450 (Dec. 12, 1983). (See also section I.)

*Authorized User Decision.*—The *Federal Communications Commission decision which removed the limitations on the *Communications Satellite Corporation (COMSAT) as a "carrier's carrier" which could supply *satellite *circuits only to other carriers. COMSAT is now able to lease satellite circuits directly to any user and is allowed to provide end-to-end services through a separate corporate subsidiary. *Authorized User Policy,* Report and Order, 90 F.C.C. 2d 1934 (1982). Stay granted pending appeal to the U.S. Court of Appeals, D.C. Circuit. (*RCA* v. *FCC,* Case No. 83-1241; *WUI* v. *FCC* Case No. 83-1244; *ITT* v. *FCC,* Case No. 83-1245; and *TRT* v. *FCC,* Case No. 83-1247.)

*Cable Copyright Law.*—Provisions of the Copyright Act of 1976 which established limited copyright protection for broadcast programs on *distant signals which are retransmitted over cable. Under the statute *cable television concerns pay an established royalty fee for a compulsory license in lieu of purchasing rights to each individual program retransmitted. These fees are distributed to copyright claimants by the *Copyright Royalty Tribunal. (Sections 106, 111, 801 of the Copyright Act of 1976, 17 U.S.C. §§ 106, 111, 801.)

*Candidate Access Statute.*—Statutory obligations which requires broadcasters to afford all political candidates for Federal office reasonable access to the airwaves. Section 312(a)(7) of the Communications Act of 1934, as amended 47 U.S.C. § 312(a)(7).

*Carterfone Decision.*—The judicial and regulatory decision which established the right of telephone subscribers to attach privately-owned instruments to telephone company lines if the system is not thereby adversely affected. *Carter* v. *AT&T,* 365 F.2d 486 (5th Cir. 1966), decision upon remand, 13 F.C.C. 2d 420 (1968), *reconsideration denied,* 14 F.C.C. 2d. 571 (1968).

*Columbia Broadcasting System, Inc.* v. *Democratic National Committee (also known as the Democratic National Committee Decision).*—A 1973 Supreme Court decision most often cited for the Court's holding that neither the *Communications Act nor the First Amendment requires broadcasters to accept or air paid editorial advertisements and that no private group or individual has a right to command use of broadcast facilities. *Columbia Broadcasting System, Inc.* v. *Democratic National Committee,* 412 U.S. 94 (1973).

*Columbia Broadcating System, Inc.* v. *Federal Communications Commission (also known as the Carter-Mondale Decision).*—A 1981 Supreme Court decision in which the court upheld the constitutionality of a provision of the *Communications Act which requires broadcast stations to afford reasonable access to, or permit purchase of, reasonable amounts of air time by a legally qualified candidate for Federal office. The Court held that the statutory provision enhances First Amendment principles necessary for the effective operation of the democratic process. (See *candidate access statute.) *Columbia Broadcasting Systems, Inc.* v. *F.C.C.,* 453 U.S. 367 (1981).

*Communications Act of 1934.*—The comprehensive Federal statute governing all communication by wire and radio. It was originally enacted in 1934; various provisions have been amended and added since then. The major substantive authority is title II which governs wire communications, such as telephone and telegraph, and economic regulation of *telecommunications *common carriers generally (whether wire or radio) and title III which contains provisions particularly relating to use of the *radio frequency spectrum, including broadcast radio and television. (Communications Act of 1934, as amended, 47 U.S.C. §§ 151 *et seq.*)

*Community Communications Co., Inc.* v. *City of Boulder, Colorado (also known as the Boulder Decision).*—A 1982 Supreme Court decision which held that local communities, when franchising *cable television operations, are not exempt from the Federal antitrust laws unless their action constitutes either action of the State itself in its sovereign capacity or municipal action in furtherance or implementation of clearly articulated or affirmatively expressed State policy (rather than action merely under local authority). *Community Communications Co., Inc.,* v. *City of Boulder, Colorado,* 455 U.S. 40 (1982).

*Computer II Decision (also known as the Second Computer Inquiry or Computer Inquiry II).*—The *Federal Communications Commission (FCC) regulatory decision which amended the regulatory scheme governing provision of regulated telecommunications services. The F.C.C. abandoned its previous regulatory scheme, which had been based upon distinguishing between "communications" services (which are regulated) and *"date processing" services (which are not regulated). The Computer II regulatory scheme, which went into effect on January 1, 1983, is based upon differentiating between *"basic transmission" services (which are regulated) and *"enhanced" services and *"customer premises equipment" (CPE), (which are not regulated). The F.C.C. required CPE charges to be *unbundled and sold separately. A.T.&T., the dominant carrier, was permitted to sell competitive services (such as enhanced services and CPE) only through separate subsidiaries. All carriers were required to keep separate accounts of their regulated basic service and their competitive services to prevent *cross-subsidization between the two. 47 C.F.R. § 64.702, *see Second Computer Inquiry,* Memorandum Opinion and Order, 77 F.C.C.2d 384 (1980), reconsideration, 84 F.C.C.2d 50 (1980), 88 F.C.C.2d 512 (1981), affirmed *sub nom. Computer & Communications Industry Ass'n* v. *F.C.C.,* 693 F.2d 198 (D.C. Cir. 1982), cert. *denied sub nom. Louisiana* v. *United States,* 103 S.Ct. 2109 (1983).

*Distant Signal Rule.*—The *Federal Communications Commission regulation, repealed in 1980, which limited the number of distant broadcast signals which cable systems were permitted to import into major markets. 47 C.F.R. §§ 76.59(b)-(e), 76.61(b)-(f), 76.63 (1980), repealed.

*Duopoly Rule.*—The *Federal Communications Commission regulation which prohibits the common ownership within the same geographic area of more than a single broadcast station in the same service. 47 C.F.R. § 73.35 (AM radio), 73.240 (FM radio), 73.636 (television).

*Domsat Decision (also known as the Open Skies Decision).*—The *Federal Communications Commission decision which allowed any non-Federal Government entity, including the *Communications Satellite Corporation, *other common carriers, and noncarriers to construct and operate either individually or jointly *communications satellite facilities for domestic use. *Domestic Communication-Satellite Facilities,* First Report & Order, 22 F.C.C.2d 86 (1970), Second Report & Order, 35 F.C.C.2d 844 (1972), *modified,* 38 F.C.C. 2d 665 (1972.)

*Equal Time.*—The statutory obligation which requires broadcasters to afford all political candidates for the same office equal opportunities to use a station's facilities if any one such candidate is permitted use. Section 315 of the Communications Act of 1934, as amended, 47 U.S.C. § 315.

*Execunet Decisions.*—Two decisions of the District of Columbia Court of Appeals which had the effect of approving competition in the long distance telephone market. In the first decision, the court reversed and remanded the *Federal Communications Commission's decision not to approve *tariffs filed by Microwave Communications, Inc. (MCI), for its "Execunet" service. "Execunet" essentially provided an alternative long distance network for subscribers by allowing them to interconnect over the telephone lines with the MCI *microwave link to a distant city, then re-connect into the telephone system. In this manner, telephone calls could be made from phones in one city to phones in a distant city without utilizing the long distance lines provided by the *established carriers. The court in its second decision required A.T.&T. to provide local physical interconnection with its network (which was essential to provision of end-to-end service). *MCI Telecommunications Corp.* v. *F.C.C.,* 561 F.2d 365 (D.C. Cir.), cert. denied, 434 U.S. 1040 (1977) (Execunet I); *MCI Telecommunications Inc.* v. *F.C.C.,* 580 F.2d 590 (D.C. Cir.), *cert. denied,* 439 U.S. 980 (1978). (Execunet II).

*Fairness Doctrine.*—A series of broadcast regulations promulgated by the *Federal Communications Commission which requires broadcasters to: (1) devote a reasonable amount of their programming to controversial issues of public importance, and (2) present contrasting views on such issues. Congressionally-recognized in Section 315(a)(4) of the Communication Act of 1934, as amended, 47 U.S.C. § 315(a)(4).

*Federal Communications Commission* v. *Pacifica Foundation (also known as the Seven Dirty Words or Pacifica Decision).*—A 1978 Supreme Court decision in which the Court upheld sanctions imposed by the *Federal Communications Commission (FCC) against a licensee for having broadcast a recorded monologue which was titled and repeatedly used "filthy words." The Court, taking into account that the broadcast was at a time of day (2 p.m.) when children could reasonably be expected to be in the audience, upheld the F.C.C.'s sanctions against the airing of "indecent" although not "obscene" language finding it to be within the statutory prohibition of "obsence, indecent, or profane language by means of radio communication" and not protected by the First Amendment. *F.C.C.* v. *Pacifica Foundation,* 438 U.S. 726 (1978).

*Financial Interest Rule.*—The *Federal Communications Commission regulation which prohibits the television broadcast networks from owning any financial or proprietary right or interest in those television programs which are wholly or partially produced by a person other than the network itself. 47 C.F.R. § 73.658(j)(ii).

*Hush-A-Phone Decision.*—The judicial and regulatory decision which esablished the right of telephone subscribers to use their telephone instruments in any manner so long as doing so is not detrimental to the telephone system. *Hush-A-Phone Corp.* v. *United States,* 238 F.2d 266 (D.C. Cir. 1956), decision upon remand, 22 F.C.C. 112 (1957).

*International Maritime Satellite Telecommunications Act of 1978.*—The statute which authorizes U.S. participation in a global satellite system designed to serve maritime commercial and safety needs for participating nations. The statute provides for the *Communications Satellite Corporation to be the U.S. participant. (International Maritime Satellite Telecommunications Act of 1978, 47 U.S.C. §§ 751 *et seq.*)

*Miami Herald* v. *Tornillo (also known as the Tornillo Decision.*—A 1974 Supreme Court decision in which the Court struck down a State statute which provided candidates with a right of reply to personnel attacks printed in newspapers. Although the State statute appeared similar to broadcasting's *Fairness Doctrine, which had been upheld in1969, in **Red Lion Broadcasting Co.* v. *F.C.C.,* the Supreme Court held that such a requirement applied to newspapers violated the First Amendment. *Miami Herald* v. *Tornillo* 428 U.S. 241 (1974).

*Mircowave Communications, Inc. (MCI) Decision.*—The *Federal Communications Commission decision which granted the applications of Microwave Communications Inc. (MCI) to provide point-to-point communications services to subscribers in direct competition with the *established carriers. *Microwave Communications, Inc.*, Decision, 18 F.C.C.2d 953 (1969).

*Must Carry Rule.*—The *Federal Communications Commission regulation which requires *cable television systems to carry the broadcast *signal which are receivable over-the-air within the community served, 47 C.F.R. §§ 76.57–76.65.

*National Broadcasting Co.* v. *United States (also known as the NBC Decision.*—A 1943 Supreme Court decision in which the Court held that the "public interest" standard of the *Communications Act authorized the *Federal Communications Commission (FCC) to interest itself in general broadcast program format and kinds of broadcast programs aired by its licensees, and that in doing so the FCC does not violate the First Amendment. *National Broadcasting Co.* v. *United States,* 319 U.S. 190 (1943).

*Network Syndication Rule.*—The *Federal Communications Commission regulation which prohibits the television broadcast networks from syndicating (see *syndication) television programs within the United States for non-network television exhibition or syndicating television programs outside the United States for which the network is not the sole producer. 47 C.F.R. § 73.658(J)(i).

*One-to-a-Market Rule.*—The *Federal Communications Commission regulation which prohibits ownership of any commercial radio broadcast station in the same area as a commonly owned television station. 47 C.F.R. § 636.

*Overseas Communications Services Decision (also known as TAT-4 Revisited).*—The *Federal Communications Commission decision which removed entirely the distinction between voice and record carriers, enabling the *international record carriers to provide voice service and AT&T to provide record services. Overseas Communications Services, Report and Order, 48 Fed. Reg. 797 (publ. Jan. 7, 1983).

*Personal Attack Rule.*—The *Federal Communications Commission regulation which provides that when an attack is made upon the honesty, character, integrity, or like personal qualities of an identified person or group, during presentation of views on controversial issues of public importance, broadcast licensees must, among other things, offer a reasonable opportunity to the attacked person or group to respond. 47 C.F.R. § 73.1920. (See *Fairness Doctrine.)

*Prime Time Access Rule.*—The *Federal Communications Commission rule which prohibits *network affiliated stations in the top 50 television markets from broadcasting more than three hours of network or *off-network entertainment programming during prime time. 47 C.F.R. § 73.658(k).

*Public Broadcasting Act of 1967.*—The statute which provides for planning and construction assistance to public telecommunications facilities and demonstration projects, and established the *Corporation for Public Broadcasting to facilitate the development of public broadcasting. (Public Broadcasting Act of 1967, as amended, 47 U.S.C. §§ 390 *et seq.*)

*Radio Deregulation Decision.*—The *Federal Communications Commission decision to eliminate or amend a number of regulations applicable to commercial radio broadcasters. The Commission eliminated the formal procedures for *ascertainment of community problems, although it continued the *ascertainment requirement itself; eliminated non-entertainment programming guidelines; and deleted certain program log requirements. The Court of Appeals remanded the Commission's decision insofar as deletion of program log requirements is concerned, and affirmed the other actions. *Deregulation of Radio,* Memorandum Opinion and Order, 84 F.C.C.2d 960 (1981), reconsideration denied, 87 F.C.C.2d 797 (1981), affirmed in part and remanded in part *sub nom. Office of Communications of the United Church of Christ* v. *F.C.C.,* 707 F.2d 1413 (D.C.Cir. 1983). *See Deregulation of Radio,* further notice of proposed rulemaking, 48 Fed. Reg. 33499 (publ. July 22, 1983).

*Record Carrier Competition Act of 1981.*—The statute which amended the *Communications Act of 1934 to require the *FCC to promote the development of fully competitive domestic and international markets for record ("hard copy") *common carrier service. Also requires the *FCC to forbear from regulating such carriers if warranted by increased competition in provision of the services. (Record Carrier Competition Act of 1981, 47 U.S.C. § 222.)

*Red Lion Broadcasting Co.* v. *Federal Communications Commission (also known as the Red Lion Decision).*—A 1969 Supreme Court decision in which the Court upheld application of the *Fairness Doctrine, including the *personal attack rule. The Court held that the *Fairness Doctrine was within the authorized power of the *Federal Communications Commission to regulate radio in the public interest, convenience, and the necessity, a standard established in title III of the *Communications Act as amended, and reaffirmed by the Congress when amending Section 315 of the Act in 1959. The Court also held that the regulations enhanced First Amendment values "in view of the scarcity of broadcast *frequencies, the Government's role in allocating those frequencies for expression of their views. *Red Lion Broadcasting Co.* v. *F.C.C.,* 395 U.S. 367 (1969).

*Seven Station Rule (also known as the Seven-Seven-Seven Rule).*—The *Federal Communications Commission regulation which prohibits the common ownership within the United States of more than seven television (of which no more than five may be on the *very high frequency channels 2–13), seven AM radio, or seven FM radio stations, 47 C.F.R. § 73.35(b)(1) (AM Radio), 73.240(a)(2) (FM Radio), 73.636(a)(2) (television).

*Specialized Common Carrier Decision.*—The *Federal Communications Commission decision which established the policy of approving applications for provision of *telecommunications services by new carriers. The Commission announced that it would approve competitive applications, rather than approving only one applicant and thereby creating monopoly service. This policy favored entry of new carriers to provide *specialized common carrier services. *Specialized Common Carrier Service,* First Report & Order, 29 F.C.C.2d 870 (1971), *reconsideration denied,* 31 F.C.C.2d 1106 (1971), *affirmed sub nom. Washington Utility and Transportation Comm'n* v. *F.C.C.,* 513 F.2d 1142 (9th Cir. 1975), *cert. denied,* 423 U.S. 836 (1975).

*Syndicated Program Exclusivity Rule.*—The *Federal Communications Commission regulation, repealed in 1980, which prohibited *cable television systems from retransmitting the syndicated programs carried on *distant signals which had been purchased by local broadcast stations if the local broadcast station requested deletion, 47 C.F.R. §§ 76.151-76-161 (1980), repealed.

*Transborder Satellite Video Services Decision.*—*FCC Decision to authorize use of domestic satellites for services between the United States and Canada, Central America, and the Caribbean in cases where to allow such service would not cause *Intelsat the economic harm contemplated in Article XIV of the *Intelsat agreement. *Transborder Satellite Video Services* Memorandum Opinion, Order, and Authorization, 88 F.C.C.2d 258 (1981).

*Uniform Settlements on Parallel International Communications Routes Decision.*—the *Federal Communications Commission decision which requires uniform accounting and settlement rates and division of tolls by all carriers serving identical international routes. *Uniform Settlement Rates on Parallel International Communications Routes,* Memorandum Opinion and Order, 84 F.C.C.2d 121 (1980).

*United States* v. *Southwestern Cable Co. (also known as the Southwestern Decision).*—a 1968 Supreme Court decision in which the Court sustained the jurisdiction of the *Federal Communications Commission to regulate the *cable television industry under the *Communications Act to the extent that such regulation is "reasonably ancillary to the effective performance of the Commission's various responsibilities for the regulation of television broadcasting." *United States* v. *Southwestern Cable Co.,* 392 U.S. 157 (1968).

## III. SELECTED TELECOMMUNICATIONS AGENCIES AND ORGANIZATIONS

*Communications Satellite Corporation (COMSAT).*—A private corporation created by the *Communications Satellite Act of 1962. COMSAT is the U.S. participant in the *International Telecommunications Satellite Organization and the provider of international *satellite services for communications between the United States and foreign countries. COMSAT also is the U.S. representative to the *International Maritime Satellite Organization and provides a number of domestic satellite communications facilities and services. Three out of fifteen members of the Board of Directors are appointed by the President with the advice and consent of the Senate.

*Conference of European Post and Telecommunications Administrations (CEPT).*—An organization of 26 European postal, telephone, and telegraph authorities (governed by a biennail plenary conference), and two permanent commissions, one for postal matters and one for *telecommunications matters.

*Copyright Office.*—The Federal body that is part of the Library of Congress statutorily charged with the administration of the Federal copyright law. Areas of interest include *cable television, public broadcasting, *computer software, off-air recording, photocopying, and motion picture and sound recording piracy.

*Copyright Royalty Tribunal.*—The Federal body appointed by the President by and with the advice and consent of the Senate statutorily charged with, among other duties, the adjustment of cable copyright compulsory license fees and the distribution of such collected fees to copyright claimants.

*Corporation for Public Broadcasting (CPB).*—A private independent, non-profit corporation established pursuant to title II of the *Public Broadcasting Act of 1967 (P.L. 90-129), whose major function is to act as the administrative organization that distributes Federal funds for public broadcasting to assist local public broadcast activities. Members of the Board of Directors are appointed by the President with the advice and consent of the Senate.

*Federal Communications Commission (FCC).*—The Federal Regulatory body appointed by the President by and with the advice and consent of the Senate with jurisdiction over all nongovernmental use of *radio frequency spectrum (including broadcast radio and television) and interstate or foreign communication by wire (including telephone and cable).

*Interdepartment Radio Advisory Committee (IRAC).*—A committee or representatives from 20 Federal agencies that assists the *National Telecommunications and Information Administration in the development of the National Table of *Frequency Allocations, the assignment of *frequencies to stations operated by the Federal Government, and other spectrum management functions.

*International Frequency Registration Board.*—The permanent organ of the *International Telecommunications Union which examines notifications of *frequency assignments from member nations for conformity with international radio regulations and provides advice regarding these regulations.

*International Maritime Satellite Organization (INMARSAT).*—The global maritime *communications satellite system established in 1976. Commercial service began on February 1, 1982. There are 37 members to INMARSAT, including the *Communications Satellite Corporation which acts as the U.S. representative.

*International Radio Consultative Committee (CCIR).*—The permanent organ of the *International Telecommunications Union in which member nations and recognized private operating agents formulate recommendations concerning technical and operational radio matters.

*International Telecommunications Satellite Organization (INTELSAT).*—An international organization established in 1964 which owns and operates the global *satellite communications system. Today there are 109 members of the system.

*International Telecommunications Union (ITU).*—An international organization which is a specialized agency affiliated with the U.N. responsible for coordinating international *telecommunications, including spectrum management. It currently has over 150 member nations.

*International Telegraph and Telephone Consultative Committee (CCITT).*—The permanant organ of the *International Telecommunications Union where member nations and recognized operating agents formulate recommendations concerning technical operational, and *tariff aspects of international telegraph and telephone *telecommunications.

*National Telecommunications and Information Administration (NTIA).*—The administration within the U.S. Department of Commerce, which serves as the principal advisor to the executive branch on telecommunications matters. It manages the spectrum allocated to the Federal Government, facilitates more efficient government telecommunications spending, and engages in research and policy planning.

# SUPPLEMENTAL VIEW OF CONGRESSMAN CHARLES W. STENHOLM

As a member of the Task Force on the Impact of Telephone Rates on Small Business, I concur with the report and its recommendations. I also want to take this opportunity to note the telephone industry's honest effort to comply with their agreement to provide the task force with a study of the impact of access charges on small businesses. This agreement of October 1, 1984 is mentioned in the footnotes of chapter 2 of the report. The Bell Communications Research (Bellcore) study, "The Impact of End-User Charges on Small Businesses", completed under considerable time constraints, represents a partial fulfillment of this agreement. I believe there is a need for further information not found in the Bellcore study. There must be an analysis of the impact of access charges on rural small businesses. In addition, further questions were raised by several assumptions of the Bellcore study, including the assumption that there would be a thirty percent reduction in long distance rates. The continued need for further study of the many aspects of this issue leads me to emphasize my strong support for the task force's call for an independent study of the effect of access charges on small businesses.

CHARLES W. STENHOLM.

## SUPPLEMENTAL VIEW—HON. VIN WEBER

The House Small Business Committee Telephone Task Force Report "The Impact of Telephone Charges on Small Business" was a significant undertaking. As a member of the Task Force, I want to thank its chairman Rep. Ron Wyden and all the other members who made it so successful.

For the first time, the effects of a changing telecommunications industry were viewed from a small business perspective. Members of the small business community were given an opportunity to speak out on this complex issue. All those who participated in the hearings of the Task Force agreed that more information and data than was available at the time of the Federal Communications Commission (FCC) initial decision was needed to gain a clearer picture of the entire subject of telecommunications and small business.

Much progress in that regard has been made. The FCC has accumulated a substantial amount of new data and information. Numerous disparate elements of the telecommunications industry—large and small, rural and urban telephone companies—have worked to resolve these complex issues. A joint board of the Federal and State regulatory commissioners has recently recommended to the FCC an access charge plan that addresses many of the concerns raised in response to the FCC's original decision. The activities of the Task Force have certainly contributed to this process.

The studies and articles added to the last volume of the hearing record reflect some of the additional information that has come to light in the last several weeks. While I do not necessarily agree or disagree with all the view expressed by the various authors, I do feel it is necessary to have their view raised. Therefore, I have requested that the following be added to the hearing record: (1) Peter F. Drucker, "Beyond the Bell Breakup," Public Interest, Fall 1984; (2) The Impact of End-User Charges on Small Business, Bell Communications Research, November 1984; (3) News, Federal Communications Commission, "Joint Board Makes Recommendations on Subscriber Line Charges, High Cost Assistance and Measures to Assist Low Income Households" (press release November 15, 1984); (4) Federal-State Joint Board, "Recommended Decision and Order, Adopted: November 15, 1984; Released: November 23, 1984, (recommendations to the FCC); (5) Eugene M. Lerner, "Testimony," Docket No. 84-800, Comments of Rural Telephone Coalition, Appendix A, November 1984. The Task Force itself is waiting for information from both the FCC and the General Accounting Office.

This Task Force has shed light on an important issue: Small business should not bear an unfair financial burden during a period of rapid technological change in the telecommunciations industry.

VIN WEBER.

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